



MEMORANDUM

TO: Laurel Driver/US EPA

FROM: Roger Chang, Jennifer Sellers, Heather Perez, and Richard Billings/ERG

DATE: June 15, 2016

SUBJECT: Development of 2014 Aircraft Component for National Emissions Inventory

1.0 Introduction

The U.S. Environmental Protection Agency (EPA), issued Work Assignment (WA) 5-05, “Mobile Source Emission Inventory Development FY15” under EPA Contract Number EPA-EP-D-11-006, to Eastern Research Group, Inc. (ERG) to support the development of the 2014 aircraft component of the National Emission Inventory (NEI). This report documents procedures used to estimate 2014 aviation emissions and is a deliverable under this work assignment.

2.0 Compilation of Activity Data

ERG compiled 2014 landing and takeoff (LTO) data from T-100 aircraft dataset for aircraft-specific commercial air traffic and air taxis data, and terminal area forecast (TAF) and Air Traffic Activity Data System (ATADS) for generic commercial and military traffic. FAA data from master plan reporting system (5010), TAF, and ATADS LTO data were used for piston engine and jet aircraft associated with general aviation and air taxis. Documentation of OTAQ’s 2011 preferred approach for developing the GA and air taxi activity data set is provided in Appendix A and was used in the same manner for 2014.

Because NEI focuses on airports as point sources, aircraft emissions are needed for the approach, landing, taxiing, idling, take off and climb-out; typical modes in a landing and take-off cycle (LTO). For this reason, the required activity data are LTOs. The LTO data are generally available in two formats, 1) aircraft-specific data typically obtained from the T-100 data which can be applied to the FAA’s Emissions and Dispersion Modeling System (EDMS) and 2) generic aircraft type (i.e., air carriers, air taxis, general aviation and military aircraft) operational data (i.e., landings and takeoffs which must be summed and divided by two to be equivalent with an LTO cycle) and applied to EPA aircraft-type (i.e., commercial, air taxis, general aviation and military) emission factors and speciation profiles.

The T-100 aircraft-specific data were identified as either commercial air carrier or air taxi aircraft based on the passenger capacity of the aircraft. The air carrier and air taxi LTOs were summed by aircraft type for each airport and compared to the commercial and air taxi data from TAF and ATADS. Note that the quality of the ATADS data is considered to be better than the TAF data as

it is derived from activity reports from FAA towered facilities. For this reason, LTO data for ATADS airports replaced any duplicate TAF data.

If the TAF/ATADS LTO value was greater than the T-100 value for a specific aircraft type and airport, then the T-100 value was subtracted from the TAF/ATADS value. If the T-100 value was greater than or equal to the TAF value, then the TAF value was set to zero. Note the data source of the LTO data used for the 2014 aircraft LTO data set and adjustments are presented in the Table 1 provided below:

Table 1. NEI 2014 LTO Activity Corrections/Adjustments

Aircraft Type	Data Sources				Required Adjustment		
	ATADS	TAF	T100	5010			
Air Carrier	✓	✓	✓		Replace TAF w/ ATADS where possible	If ATADS/TAF > T100, use T100 with EDMS and subtract T100 from ATADS/TAF and use generic approach	If ATADS/TAF <= T100, use T100 with EDMS, and set ATADS/TAF to zero
Military	✓	✓			Replace TAF w/ ATADS where possible	Add military LTOs to data set	
Air Taxi			✓	✓	ATADS/TAF replacement already implemented by 5010	If 5010 > T100, use = T100 with EDMS and subtract T100 from 5010 and use generic approach	If 5010 <= T100, use T100 with EDMS and set 5010 to zero
General Aviation				✓	ATADS/TAF already implemented in 5010 data	Use 5010, no adjustment	

The data were compiled into a user friendly database for EPA review. Airports or aircraft engine configurations added since 2011 were clearly identified as they needed to be added to the EPA’s Emission Inventory System (EIS).

The national LTO data were posted for states to review. Instructions that delineate the review process were included with the posted data and are provided in Appendix B. State/local/tribal agencies provided local LTO data as deletions, additions or changes to the national LTO data for their jurisdiction. State/local/tribal agency submitted data were evaluated and if appropriate, were pulled into the national LTO data file.

Table 2 lists the state/local/tribal agencies that provided data or comments.

Table 2. Agencies That Provided Activity Data or Commented on Data

State	Affiliation
AL	Alabama Department of Environmental Management
CA	Planning & Evaluation Division, Ventura County APCD
CT	Connecticut Department of Energy & Environmental Protection

Table 2. Agencies That Provided Activity Data or Commented on Data

State	Affiliation
GA	Georgia Department of Natural Resources
MD	Maryland Department of the Environment
NC	North Carolina Department of Environmental Quality
NH	New Hampshire Department of Environmental Services
NY	New York State Department of Environmental Conservation
PA	Pennsylvania Department of Environmental Protection
SC	South Carolina Department of Health and Environmental Control
TN	Tennessee Department of Environment & Conservation
UT	Utah Department of Environmental Quality
VA	Virginia Department of Environmental Quality
VT	Vermont Air Pollution Control Division

Appendix C includes the detailed LTO data submitted by states.

The final LTO database with state data incorporated was then compared to the LTO data in the 2011 inventory. Table 3 summarizes the LTO comparison.

Table 3. 2011 and 2014 LTO Comparison

SCC	SCC Description	2011 LTO	2014 LTO	Percent Difference
2275001000	Aircraft/Military	2,638,781	4,171,442	58%
2275020000	Aircraft/Commercial	8,414,082	8,739,662	4%
2275050011	Aircraft /General Aviation /Piston	30,092,114	28,659,568	-5%
2275050012	Aircraft /General Aviation /Turbine	10,892,174	11,178,890	3%
2275060011	Aircraft /Air Taxi /Piston	1,766,409	1,503,373	-15%
2275060012	Aircraft /Air Taxi /Turbine	5,021,939	4,532,778	-10%
Total		58,825,499	58,785,712	-0.07%

3.0 Emission Estimating Procedures

Prior to implementing the emission calculations, ERG quality checked the input data to ensure that they were correctly compiled and reasonable. Once the LTO data had been finalized, the aircraft-specific data were run in EDMS to estimate criteria, greenhouse gas (GHG) and hazardous air pollutant (HAP) emission from aircraft engine exhaust, auxiliary power units, and ground support equipment. Where aircraft-specific data were not available, aircraft-type LTO data were applied to generic profiles. The generic aircraft-type emission factors used in this inventory are provided in Appendix D. Note for 2014, the military generic data were updated using military aircraft specific emission factors from EDMS (Appendix E).

The emission estimates were quality checked to ensure that they have been calculated correctly and the results are reasonable. It is important to note that the emission factors for military aircraft were updated between the 2011 and 2014 inventories, which explain some of the larger differences. Table 4 summarizes the emission comparison.

Table 4. 2011 and 2014 Emissions Comparison

Pollutant Name	2011 Emissions (Ton)	2014 Emissions (Ton)	Percent Difference
Carbon Dioxide	29,944,090.82	69,972,136.20	134%
Carbon Monoxide	491,012.22	462,547.40	-6%
Nitrogen Oxides	123,614.15	162,510.69	31%
PM10 Primary (Filt + Cond)	9,196.61	11,414.87	24%
PM2.5 Primary (Filt + Cond)	7,899.43	10,134.30	28%
Sulfur Dioxide	14,660.55	18,280.24	25%
Volatile Organic Compounds	31,788.14	51,874.77	63%
1,3-Butadiene	443.83	786.92	77%
1-Methylnaphthalene	59.26	69.77	18%
2,2,4-Trimethylpentane	36.68	23.17	-37%
2-Methylnaphthalene	49.43	91.68	85%
Acenaphthene	2.85	2.70	-5%
Acenaphthylene	16.06	15.23	-5%
Acetaldehyde	1,081.82	1,950.47	80%
Acrolein	602.64	1,102.91	83%
Anthracene	3.31	3.14	-5%
Benz[a]Anthracene	0.39	0.37	-5%
Benzene	573.11	894.60	56%
Benzo[a]Pyrene	0.39	0.37	-5%
Benzo[b]Fluoranthene	0.47	0.44	-6%
Benzo[g,h,i]Perylene	1.01	0.96	-5%
Benzo[k]Fluoranthene	0.47	0.44	-6%
Chrysene	0.39	0.37	-5%
Cumene	0.72	1.34	85%
Dibenzo[a,h]Anthracene	0.00069	0.00072	4%
Ethyl Benzene	100.92	128.32	27%
Fluoranthene	3.55	3.37	-5%
Fluorene	5.89	5.58	-5%
Formaldehyde	3,155.72	5,655.62	79%
Hexane	20.68	20.64	0%
Indeno[1,2,3-c,d]Pyrene	0.31	0.30	-4%
Lead	244.78	228.13	-7%
Methane	124.56	91.86	-26%
Methanol	433.09	803.36	85%
m-Xylene	110.39	144.38	31%
Naphthalene	455.69	587.04	29%
o-Xylene	61.08	82.94	36%
Phenanthrene	9.92	9.40	-5%
Phenol	175.61	324.32	85%

Table 4. 2011 and 2014 Emissions Comparison

Pollutant Name	2011 Emissions (Ton)	2014 Emissions (Ton)	Percent Difference
Propionaldehyde	188.50	335.11	78%
Pyrene	4.84	4.59	-5%
Styrene	86.56	149.09	72%
Toluene	530.15	619.52	17%
Xylenes (Mixed Isomers)	173.08	175.34	1%

According to the U.S. Energy Information Administration, in 2014, national aviation gasoline consumption was 4,298,000 barrels (http://www.eia.gov/state/seds/sep_fuel/html/pdf/fuel_av.pdf). Assuming one barrel converts to 42 U.S. gallons, the 2014 aviation gasoline fuel consumption is 180,516,000 gallons.

The lead content of 100 low lead (II) aviation gasoline is 2.12 grams per gallon of aviation gasoline.

Assuming a 5 % lead retention, total lead emissions from national aviation gasoline consumption would be:

$$180,516,000 \text{ gal of aviation gas} \times 2.12 \text{ g lead/gal} \times 0.95 / 907,180 \text{ g/ton} = \mathbf{400.76 \text{ tons of lead}}$$

The total LTO lead estimate is 228.13 tons which implies the lead emission associated with cruising is:

$$400.76 \text{ total tons of lead} - 228.13 \text{ LTO-related tons of lead} = \mathbf{172.63 \text{ cruising tons of lead}}$$

States' LTO data were used to apportion the cruising lead emissions.

4.0 Emission Data Formatting

A dataset of the emissions estimates were provided to the EPA WAM and OTAQ for review. A final dataset that incorporates any changes recommended by the EPA WAM or OTAQ staff was compiled and provided to the WAM for inclusion into EIS staging tables.

5.0 Emission Summary

Table 5 summarizes the total annual emissions from airports. More detailed emissions data, which include SCCs, are provided in Appendix F.

Table 5. Total Annual Emissions from Airports

Pollutant Name	Pollutant Code	Emissions (Ton)
Carbon Dioxide	CO ₂	69,972,136.20
Carbon Monoxide	CO	462,547.40
PM10 Primary (Filt + Cond)	PM ₁₀ -PRI	11,414.87
PM2.5 Primary (Filt + Cond)	PM ₂₅ -PRI	10,134.30
Nitrogen Oxides	NO _x	162,510.69
Sulfur Dioxide	SO ₂	18,280.24

Table 5. Total Annual Emissions from Airports

Pollutant Name	Pollutant Code	Emissions (Ton)
Volatile Organic Compounds	VOC	51,874.77
1,3-Butadiene	106990	786.92
1-Methylnaphthalene	90120	69.77
2,2,4-Trimethylpentane	540841	23.17
2-Methylnaphthalene	91576	91.68
Acenaphthene	83329	2.70
Acenaphthylene	208968	15.23
Acetaldehyde	75070	1,950.47
Acrolein	107028	1,102.91
Anthracene	120127	3.14
Benz[a]Anthracene	56553	0.37
Benzene	71432	894.60
Benzo[a]Pyrene	50328	0.37
Benzo[b]Fluoranthene	205992	0.44
Benzo[g,h,i]Perylene	191242	0.96
Benzo[k]Fluoranthene	207089	0.44
Chrysene	218019	0.37
Cumene	98828	1.34
Dibenzo[a,h]Anthracene	53703	0.00072
Ethyl Benzene	100414	128.32
Fluoranthene	206440	3.37
Fluorene	86737	5.58
Formaldehyde	50000	5,655.62
Hexane	110543	20.64
Indeno[1,2,3-c,d]Pyrene	193395	0.30
Lead	7439921	228.13
Methane	CH ₄	91.86
Methanol	67561	803.36
m-Xylene	108383	144.38
Naphthalene	91203	587.04
o-Xylene	95476	82.94
Phenanthrene	85018	9.40
Phenol	108952	324.32
Propionaldehyde	123386	335.11
Pyrene	129000	4.59
Styrene	100425	149.09
Toluene	108883	619.52
Xylenes (Mixed Isomers)	1330207	175.34

Appendix A - Documentation of Calculating Piston-Engine Aircraft Activity

Calculating Piston-Engine Aircraft Activity for the Draft 2011 National Emissions Inventory

June 2012

Section 1. Introduction

The main purpose of this document is to describe the methods the Environmental Protection Agency (EPA) used to calculate airport piston-engine activity inventories for the draft 2011 National Emissions Inventory (NEI).¹ These methods focus on the development of approaches to estimate piston-engine aircraft activity at airports in the U.S. since the activity of this fleet is reported to the Federal Aviation Administration (FAA) as general aviation (GA) or air taxi (AT) activity – categories that also include jet-engine aircraft activity. The methods described here are largely the same as those used to construct the 2008 NEI.

Background information regarding the use of leaded aviation gasoline (avgas) in piston-engine powered aircraft is available in other documents.^{2,3} Briefly, most piston-engine aircraft operations fall into the categories of either GA or AT. Aircraft used in GA and AT activities include a diverse set of aircraft types and engine models and are used in a wide variety of applications.⁴ Lead emissions associated with GA and AT aircraft stem from the use of one hundred octane low lead (100LL) avgas. The lead is added to the fuel in the form of tetraethyl lead (TEL). This lead additive helps boost fuel octane, prevent engine knock, and prevent valve seat recession and subsequent loss of compression for engines without hardened valves. Today, 100LL is the most commonly available type of aviation gasoline in the United States.⁵ Lead is not added to jet fuel that is used in commercial aircraft, most military aircraft, or other turbine-engine powered aircraft.

This document is organized into five sections. Section 2 describes the landing and takeoff data we use to calculate airport-specific activity. Section 3 describes how we estimate landing and takeoff data for the airport facilities that do not report it to the FAA. Section 4 describes the estimate of landing and takeoff activity occurring at heliports in the U.S. and Section 5 describes the data we use to calculate the number of landings and takeoffs that are conducted by piston-engine aircraft.

¹ In this document ‘draft 2011 NEI’ refers to the draft 2011 NEI data, available at: <http://www.epa.gov/ttn/chief/net/2011inventory.html>

² EPA (2007) Review of the National Ambient Air Quality Standards for Lead: Policy Assessment of Scientific and Technical Information. OAQPS Staff Paper. EPA-452/R-07-013 November 2007. pp 2-8 and 2-9.

³ FAA William J. Hughes Technical Center http://www.tc.faa.gov/act4/insidethefence/2006/0609_06_AvFuels.htm

⁴ Commercial aircraft include those used for scheduled service transporting passengers, freight, or both. Air taxis fly scheduled and for-hire service carrying passengers, freight or both, but they usually are smaller aircraft than those operated by commercial air carriers. General aviation includes most other aircraft (fixed and rotary wing) used for personal transportation, business, instructional flying, and aerial application.

⁵ ChevronTexaco (2005) Aviation Fuels Technical Review. FTR-3.

http://www.chevronglobalaviation.com/docs/aviation_tech_review.pdf

Section 2. Landing and Takeoff Data Sources and Uses

Airport-specific inventories require information regarding landing and takeoff (LTO) activity by aircraft type.⁶ According to FAA records, there are approximately 20,000 airport facilities in the U.S., the vast majority of which are expected to have activity by piston-engine aircraft that operate on leaded avgas.

FAA's Office of Air Traffic provides a complete listing of operational airport facilities in the National Airspace System Resources (NASR) database. The electronic NASR data report, referred to here as the 5010 airport data report, can be generated from the NASR database and is available for download from the FAA website.⁷ This report is updated every 56 days. EPA obtains airport information (including operations) for a subset of the facilities in the NASR database from FAA's Terminal Area Forecast (TAF) database that is prepared by FAA's Office of Aviation Policy and Plans.⁸ The TAF database currently includes information for airports in FAA's National Plan of Integrated Airport Systems (NPIAS), which identifies airports that are significant to national air transportation. Approximately 500 of the airports that are in the TAF database have either an FAA air traffic control tower or an FAA contract tower where controllers count operations. The operations data from the control towers is reported to The Operations Network (OPSNET)⁹ which is publically available in the Air Traffic Activity System (ATADS) database.¹⁰ The operations data for the towered airports that is reported in OPSNET and ATADS is then reported to the TAF database. The operations data for the airports in the TAF database that do not have control towers represent estimates.¹¹ The operations supplied in the 5010 airport data report for facilities not reported in the TAF may be self-reported by airport operators through data collection accomplished by airport inspectors who work for the State Aviation Agency, or operations data can be obtained through other means.¹²

The 5010 airport data report supplies the date that the associated operations data represents.¹³ Because airports that are not in the TAF database submit data voluntarily to FAA for the 5010 data report, many of the airports have operations data that represent data for years earlier than 2011. Nationally, piston-engine operations have decreased in recent years,¹⁴ therefore EPA did not use GA operations data from years prior to 2011 as it is reported. Instead, EPA multiplied the older GA piston-engine data (Section 5 describes the method EPA used to calculate the number of piston-engine operations from total GA and AT activity data) by scaling factors that were calculated by dividing the 2011 national amount of

⁶ An aircraft operation is defined as any landing or takeoff event, therefore, to calculate LTOs, operations are divided by two. Most data sources from FAA report aircraft activity in numbers of operations which, for the purposes of calculating lead emissions using the method described in this document, need to be converted to LTO events.

⁷ http://www.faa.gov/airports_airtraffic/airports/airport_safety/airportdata_5010/

⁸ <http://aspm.faa.gov/main/taf.asp>

⁹ <http://aspm.faa.gov/opsnet/sys/>

¹⁰ <http://aspm.faa.gov/opsnet/sys/Airport.asp>

¹¹ FAA's Terminal Area Forecast Summary (Fiscal Years 2011 – 2040), Appendix A (page 28)

http://www.faa.gov/about/office_org/headquarters_offices/apl/aviation_forecasts/taf_reports/media/TAF_summary_report_FY20112040.pdf

¹² In the absence of updated information from States, local authorities or Tribes, we are using the LTO data provided in the FAA database.

¹³ The 12-month ending date on which annual operations data in the report is based.

¹⁴ http://www.faa.gov/data_research/aviation_data_statistics/general_aviation/

avgas produced by the national amount of avgas produced in the year the operations data represents.¹⁵ A table with the scaling factors is provided in Attachment A. The national volume of avgas produced data comes from the DOE, EIA website and is available for 1981 – 2011.¹⁶ For operations data older than 1981, EPA divided the 2011 national amount of avgas produced by the average of the national amount of avgas produced from 1981 – 1989. Jet engines do not use avgas, therefore EPA did not apply scaling factors to the turbine operations for data from years prior to 2011.

The 2011 draft NEI was developed using the February 7, 2012 version of the 5010 airport data report. In that version of the report there were 19,782 airport facilities in the U.S. that had submitted data to the FAA. Among these 19,782 facilities, 69 facilities were not relevant for the purposes of estimating lead emissions because they were either listed as closed (56) or they were balloonports (13).¹⁷ Therefore, lead inventories were needed for 19,714 facilities.¹⁸ In the February 7, 2012 version of the 5010 airport data report, the 2011 TAF, and 2011 ATADS data there were a total of 5,627 airport facilities for which operations data were provided (many of which are facilities in FAA's TAF database).¹⁹ There were 14,087 facilities in the 5010 airport data report and the 2011 TAF data for which there were no operations data.²⁰ Section 3 of this document describes the method EPA used to estimate operations for the 8,430 airport facilities in the draft 2011 NEI that do not have reported activity data. Section 4 describes the method EPA used to estimate operations for the 5,557 heliport facilities in the draft 2011 NEI that do not have reported activity data.²¹

As described in Section 1, most piston-engine aircraft fall into the categories of either GA or AT. Some GA and AT activity is conducted by turboprop and turbojet aircraft which do not use leaded avgas. There are no national databases that provide airport-specific LTO activity data for piston-engine aircraft separately from turbojet and turboprop aircraft. The databases described above report total GA and AT activity conducted by both piston-engine and jet-engine aircraft. Section 5 describes how we estimate piston-engine LTOs at airports in the draft 2011 NEI.

¹⁵ The FAA General Aviation and Air Taxi (Part 135) Activity Surveys (source of national level piston-engine operations data) are only available annually, starting in 1999. Because there are airports with operations data older than 1999, EPA used avgas product supplied data as a surrogate for piston-engine operations to estimate the change in piston-engine activity over the last three decades.

¹⁶ http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=mgaupus1&f=A_ DOT recently changed the way they estimate fuel consumption data, so while EPA used DOT data to determine the 2011 national avgas lead inventory, for the purpose of calculating these scaling factors EPA used DOE's data in order to have historical fuel data that is calculated in a consistent manner.

¹⁷ Balloon craft do not use avgas

¹⁸ There was one facility in FAA's TAF database (72S) that was not in the 5010 Data Report, so the sum of 19,714 plus 69 is one larger than the 19,782 in the downloaded FAA 5010 Data Report.

¹⁹ Either GA Itinerant, GA Local, or Air Taxi operations data, as these operations can be performed by piston-engine aircraft.

²⁰ No GA Itinerant, GA Local, or Air Taxi operations data.

²¹ There are 100 facilities in the NPIAS report that have both 0 GA and 0 AT operations; however, EPA did not estimate operations for these 100 facilities.

Section 3. Estimating LTOs at the 8,430 Airport Facilities with No LTO Data

FAA has used regression models to estimate operations at facilities where operations data are not available.^{22,23} In this work and other work, FAA identified characteristics of small towered airports for which there were statistically significant relationships with operations at these airports.²⁴ Regression models based on the airport characteristics were then used to estimate general aviation operations for a set of non-towered airports. The airport characteristics identified by FAA and used to estimate general aviation operations at small airports include: the number of aircraft based at a facility (termed ‘based aircraft’), population in the vicinity of the airport, airport regional prominence, per capita income, region, and the presence of certificated flight schools.

In the 2000 report titled ‘Model for Estimating General Aviation Operations at Non-towered Airports,’ a model of GA annual activity was developed using information from small towered airports to explain GA activity at towered and non-towered airports. The model explained GA activity at the towered airports well (R^2 of 0.75) but produced higher estimates than state-supplied estimates for non-towered airports.²⁵

The relevant data available in the 5010 airport data report for the purposes of estimating airport operations include: facility type (airport, balloonport, seaplane base, gliderport, heliport, stolport,²⁶ ultralight); number of GA aircraft based at each airport by type (glider, helicopter, jet engine, military, multi-engine, single engine, ultralight); operations data (air taxi, commercial, commuter, GA itinerant, GA local, military)²⁷; and operations date (12-month ending date on which annual operations data is based). 2010 U.S. Census data was also merged with the 5010 airport data report to give population data for each airport’s county.

Using the FAA work referenced above, we explored relationships among the airport data variables that best predicted aircraft activity (LTOs). We found that based aircraft was a highly significant and positive regressor to LTOs. Table 1 shows that for non-heliport facilities that did not have LTO data in the February 7, 2012 version of the 5010 airport data report, 6,314 had based aircraft data while 2,216

²² Federal Aviation Administration, Office of Aviation Policy and Plans, Statistics and Forecast Branch. July 2001. Model for Estimating General Aviation Operations at Non-towered Airports Using Towered and Non-towered Airport Data. Prepared by GRA, Inc.

²³ Mark Hoekstra, “Model for Estimating General Aviation Operations at Non-Towered Airports” prepared for FAA Office of Aviation Policy and Plans, April 2000.

²⁴ GRA, Inc. “Review of TAF Methods,” Final Report, prepared for FAA Office of Aviation Policy and Plans under Work Order 45, Contract No. DTFA01-93-C-00066, February 25, 1998.

²⁵ The mean absolute difference between the model operations estimate and the state operations estimate was 16,940 operations.

²⁶ Stolport is an airport designed with STOL (Short Take-Off and Landing) operations in mind, normally having a short single runway.

²⁷ As explained in footnote 6, an aircraft operation is defined as any landing or takeoff event, therefore, to calculate LTOs, operations are divided by two. The 5010 airport data report from FAA reports aircraft activity in numbers of operations which, for the purposes of calculating Pb emissions using the method described in the TSD, are converted to LTO events.

did not have based aircraft data.²⁸ Therefore, as described below, LTO estimates were derived using different methods depending on data availability.

Table 1: Contingency table describing the numbers of non-heliport facilities that have or do not have LTO data and/or based aircraft data for facilities in the February 7, 2012 version of the 5010 airport data report

		HAVE LTO DATA		
		YES	NO	
HAVE	YES	4,807	6,314	11,121
	NO	728	2,216	2,944
BASED		5,535	8,530	14,065

AIRCRAFT

DATA

(a) Estimating LTOs at Facilities with Based Aircraft Data, but No LTO Data:

There are 6,289 facilities in the draft 2011 NEI (not including heliports) for which the 5010 airport data report supplies the number of based aircraft²⁹ but not activity data to which the regression equation (based aircraft vs. LTOs) could be applied.³⁰ Using the 4,807 airports for which both LTO and aircraft data is known, the initial relationship found between based aircraft and LTOs was:

Equation 1:

$$\text{LTOs} = 2956 + 166 * \text{aircraft} \qquad R^2 = 0.52$$

The FAA models found population to be another significant regressor. We used the population of the county in which the airport is located as the population variable. Adding county population to the model gave the following relationship:

²⁸ These numbers include data for the following types of facilities: airports, balloonports, seaplane bases, gliderports, heliports, stolports, and ultralights.

²⁹ Based aircraft for this purpose was limited to single- and multi-engine aircraft, helicopters, gliders, and ultralights since these aircraft types can use leaded avgas.

³⁰ There are 100 facilities in the NPIAS report that have both 0 GA and 0 AT operations; however, EPA did not estimate operations for these 100 facilities. 25 of the 100 facilities have based aircraft data, hence the difference between the 6,314 value in Table 1 and the 6,289 value stated in this sentence.

Equation 2:

$$\text{LTOs} = 2706 + 156 * \text{aircraft} + 0.0025 * \text{county population} \quad R^2 = 0.53$$

EPA received numerous comments to the docket on its Advance Notice of Proposed Rulemaking on Lead Emissions from Piston-Engine Aircraft Using Leaded Aviation Gasoline³¹ indicating that aviation in Alaska is different than it is in the continental U.S. Commenters pointed out that in Alaska, 82% of communities are not accessible by road and rely on air transport for life sustaining goods and services.³² Commenters also noted that Alaskans travel by air eight times more often per capita than those in the continental U.S. For those reasons, we added a dummy variable in equation 3 to identify whether or not an airport is located in Alaska. Because the relationship between based aircraft and LTOs is likely different for Alaskan airports than it is for airports that aren't in Alaska, we also added an interaction term to equation 3 (interaction of an airport being in Alaska and its sum of based aircraft).

Equation 3:

$$\text{LTOs} = 2472 + 167 * \text{aircraft} + 0.0022 * \text{county population} - 162 * \text{Alaska} - 98 * (\text{Alaska} * \text{aircraft}) \quad R^2 = 0.55$$

After analyzing the data and plot for the data underlying equation 3, we found many airport facilities identified as commercial airports for which based aircraft was extremely low (i.e., less than 10), yet LTOs were quite high (i.e., anywhere from 100,000 to more than 200,000 LTOs/year).³³ These facilities were removed from the regression analysis. Additionally, for reasons described below, heliports were also removed from the regression. The resulting relationship was:

Equation 4:

$$\text{LTOs} = 1974 + 168 * \text{aircraft} + 0.0009 * \text{county population} - 1181 * \text{Alaska} - 125 * (\text{Alaska} * \text{aircraft}) \quad R^2 = 0.63$$

³¹ U.S. Environmental Protection Agency (2010) Advance Notice of Proposed Rulemaking on Lead Emissions From Piston-Engine Aircraft Using Leaded Aviation Gasoline. 75 FR 22440 (April 28, 2010).

³² Comments to the docket on EPA's Advance Notice of Proposed Rulemaking on Lead Emissions from Piston-Engine Aircraft Using Leaded Aviation Gasoline from the Alaska Air Carriers Association (dated 18 June 2010; comment number OAR-2007-0294-0323.1) and Alaska Governor Parnell (dated 25 August 2010; comment number OAR-2007-0294-0403.1).

³³ From FAA's website, "Addresses for Commercial Service Airports", available at: http://www.faa.gov/airports_airtraffic/airports/planning_capacity/passenger_allcargo_stats/addresses/media/commercial_service_airports_addresses.xls

When equation 4 was applied to the 6,289 airport facilities that report based aircraft data but not LTO activity, the resulting sum of LTOs was almost 8 million. EPA estimates that the number of LTOs at the airports that do not report activity data should approximate the number of LTOs from the bottom of the distribution of the set of airports that report activity data to the 5010 airport data report but that are not in the TAF database. The average number of GA LTOs per year from airports in the bottom 30% of the set of airports that report activity data to the 5010 airport data report but that are not in the TAF database is ~82 LTOs/year. Multiplying 82 by the number of airports that do not report activity data equals 687,045 LTOs.³⁴ Therefore, EPA used equation 4 to generate the distribution of LTOs at the individual airports that report based aircraft data but not activity data and then applied a scaling factor of 0.08 to those LTOs to obtain the LTOs that are reported in the draft 2011 NEI.³⁵ The sum of the LTOs from this set of airports plus the sum of the LTOs at the airports that do not report either based aircraft or activity data (described below in section (b)) sum to 687,045 LTOs. These LTOs are all assigned to the GA, piston-engine category since they are assigned to smaller general aviation airports that are assumed to have little to no air taxi or jet aircraft activity.

Equation 4 and the scaling factor were used to estimate LTO activity for the draft 2011 NEI at the 6,289 airport facilities that report based aircraft data but not activity data.

(b) Estimating LTOs at Facilities with Neither Based-Aircraft Data nor LTO Data:

There are 2,141 facilities (not including heliports) for which the 5010 airport data report supplies neither the number of based aircraft nor activity data. EPA investigated 100 of these facilities using on-line searches and Google Earth satellite images to ascertain whether these facilities exist and if so, whether aircraft activity appeared to be occurring. Because the majority of these facilities appeared to be active, we elected to assign 1 LTO to each facility. If EPA receives better data from state or local authorities, we will replace these estimates.

Section 4. Calculating LTOs at Heliports:

There were 5,649 heliport facilities in the February 7, 2012 FAA 5010 data report that were operational. Of those, only 92 (or 2%) reported LTO data, and of those, only 29 reported both based

³⁴ This number is calculated by multiplying 81.5 LTOs/year by 8,430, which is the number of airports that don't report activity data (6,289 don't report activity data and 2,141 facilities don't report activity or based aircraft data).

³⁵ The scaling factor was calculated by dividing 684,904 LTOs by 8,608,829 LTOs; the 684,904 LTOs are equal to 687,045 LTOs minus 2,141 LTOs (2,141 LTOs represent the sum of LTOs assigned to the 2,141 facilities that don't report either activity data or based aircraft data - the derivation of LTO estimates for these facilities is described in Section 3 (b)). The 8,608,829 LTOs are the sum of LTOs that result from applying equation 4 to the 6,289 facilities with based aircraft data but no activity data.

aircraft and LTO data. Because of the limited information regarding activity at heliports, some municipalities have hired contractors to survey activity in their local area.^{36, 37}

The summary statistics for LTO data provided at the 92 operational heliports is presented in Table 2. These facilities report a wide range in activity from 1 LTO/year to more than 18,000 LTOs/year. Some facilities clearly have significant helicopter traffic (i.e., thousands of LTOs/year) which is supported by the contractor summaries of heliport activity in the Washington Metropolitan area. The little data available to us suggests that the median helicopter activity is less than 200 LTOs/year. In the absence of more information on which to base estimates of LTO activity, we assigned 51 LTOs (the median of the reported heliport LTOs) to the GA category at all of the heliports which do not report LTO data. The piston-engine fraction developed in Section 5 is applied to the 51 LTOs resulting in 18 LTOs assigned to the GA, piston-engine category and 33 assigned to the GA, turbine-engine category. This is an area of significant uncertainty in the inventory and one for which EPA is seeking information from local agencies.

Table 2: Heliport LTO Data for those Reporting LTO Data in the February 7, 2012 Version of the 5010 Airport Data Report

18,200	Maximum GA LTOs
1	Minimum GA LTOs
793	Average GA LTOs
51	Median GA LTOs
50	Mode GA LTOs

Section 5. Calculating Piston-Engine LTO

Piston-engine LTOs are used to calculate emissions of lead that are assigned to the airport facility where the aircraft operations occur. An aircraft operation is defined as any landing or takeoff event, therefore, to calculate LTOs, operations are divided by two. Most data sources from FAA report aircraft activity in numbers of operations which, for the purposes of calculating lead emissions, need to be converted to LTO events. We describe here the method used to estimate the fraction of GA and AT LTOs at an airport that are conducted by piston-engine aircraft. These fractions are calculated separately (one fraction for GA and one for AT). These fractions are multiplied by total LTOs reported separately for GA and AT and then summed to arrive at the total LTOs conducted by piston-engine aircraft at an airport.

One use of the draft 2011 NEI is to identify airports that have inventories of 0.50 tons per year or more since this is one of the criteria for identifying airports where lead monitoring may need to be considered to evaluate compliance with the National Ambient Air Quality Standard for Lead. To calculate the most airport-specific inventories for airports that may potentially exceed 0.50 tons per year, we used a

³⁶ Executive Summary: Regional Helicopter System Plan, Metropolitan Washington Area, prepared by Edwards and Kelcey for the Metropolitan Washington Council of Governments, 2005.

³⁷ Alaska Aviation Emission Inventory, prepared by Sierra Research, Inc. for Western Regional Air Partnership, 2005.

more airport-specific surrogate for this subset of airports than the remainder of the airports where we applied national default averages described below.

We used the fraction of based aircraft at an airport that are single- or multi-engine to calculate the number of GA LTOs at an airport that were conducted by piston-engine aircraft. The data regarding the population of based aircraft at an airport is available for a subset of airports in the FAA 5010 master records data report described in Section 3. For example, if an airport reports 150 single-engine aircraft, 20 multi-engine aircraft and a total of 180 aircraft based at that facility, then the fraction of based aircraft we would use as a surrogate for piston-engine aircraft is 94% $((150+20)/180)$. We then multiply the total GA LTOs for that facility by 0.94 to calculate piston-engine GA LTOs.

We evaluated this surrogate by comparing the results of using it with piston-engine aircraft operations reported for airports that supply this information in master plans, airport layout plans, noise abatement studies and/or land use compatibility plans. We could rarely find data from the same year for comparison purposes; however, for the majority of airports, based aircraft and actual observed piston-engine aircraft activity agreed within ten percent.³⁸

For the majority of airports in the draft 2011 NEI we used national average fractions of GA and AT LTOs conducted by piston-engine aircraft that were derived using FAA's General Aviation and Part 135³⁹ Activity Surveys – CY 2010 (GAATA).⁴⁰ Table 2.4 in the 2010 GAATA Survey reports that approximately sixty-six percent (66%) of all GA and AT LTOs are from piston-engine aircraft which use avgas, and about thirty-four percent (34%) are turboprop and turbojet powered which use jet fuel, such as Jet A. The LTO data in Table 2.4 in the 2010 GAATA Survey does not distinguish LTOs as GA or AT, and thus does not allow us derive separate piston-engine activity fractions for GA and AT.

We are using the number of hours flown by piston versus turboprop or turbojet aircraft (reported in Table 1.4 in the 2010 GAATA Survey) to allow us to make separate estimates of the fraction of GA activity conducted by piston aircraft and the fraction of AT activity conducted by piston aircraft. We chose to use the fraction of hours flown by piston-engine aircraft as a surrogate to calculate the fraction of LTOs flown by piston aircraft since the overall (i.e., for GA and AT combined) piston percent of hours flown (65.8%) is very close to the percent of LTOs that are piston (65.7%). Table 1.4 of the 2010 GAATA presents the total hours flown by aircraft type and separates GA from AT. Seventy-two percent

³⁸ Documents used to evaluate the use of based aircraft include the following:
Airport Master Plan Update Prescott Municipal Airport (Ernest A Love Field) (2009) Available at: www.cityofprescott.net/_d/amp_tablecontents.pdf
Gillespie field Airport Layout Plan Update Narrative Report (2005) Available at: www.co.sandiego.ca.us/dpw/airports/powerpoints/pdalp.pdf
Land Use Compatibility Plan for the Grand Forks International Airport (2006) Available at: www.gfkairport.com/authority/pdf/land_use.pdf

McClellan-Palomar Land Use Compatibility Plan (Amended March 4, 2010) Available at: www.ci.oceanside.ca.us/.../McClellan-Palomar_ALUCP_03-4-10_amendment.pdf

³⁹ On-demand (air taxi) and commuter operations not covered by Part 121

⁴⁰ The FAA GAATA is a database collected from surveys of pilots flying aircraft used for general aviation and air taxi activity. For more information on the 2010 GAATA, see Appendix A at http://www.faa.gov/data_research/aviation_data_statistics/general_aviation/CY2010/

(72%) of all GA hours flown are by piston-engine aircraft while twenty-eight percent (28%) of all GA hours flown are by turboprop and turbojet powered aircraft.⁴¹ Twenty-two percent (22%) of all AT hours flown are by piston-engine aircraft while seventy-eight percent (78%) of all AT hours flown are by turboprop and turbojet powered aircraft. Approximately 5,000 of the total 20,000 airport facilities in the U.S. are heliports at which only helicopters (rotocraft) operate. Therefore, EPA also calculated the percent of rotocraft hours flown that are conducted by piston-engine aircraft. Thirty-six percent (36%) of all GA rotocraft hours flown are by piston-engine rotocraft while sixty-four percent (64%) of all GA rotocraft hours flown are by turboprop and turbojet powered rotocraft. Two percent (2%) of all AT rotocraft hours flown are by piston-engine rotocraft while ninety-eight percent (98%) of all AT rotocraft hours flown are by turboprop and turbojet powered rotocraft. Table 3 identifies the piston and turbine fractions that were used in the absence of airport-specific information to calculate piston-engine operations at airports and heliports in the draft 2011 NEI.

Table 3: Piston and Turbine Activity Fractions used in the draft 2011 NEI

	Airports		Heliports	
	GA	AT	GA	AT
Piston Powered	72.1%	21.8%	35.8%	2%
Turbine Powered	27.9%	78.2%	64.2%	98%

For additional information or if you have questions regarding the methods described in this document, please contact Meredith Pedde (pedde.meredith@epa.gov) or Marion Hoyer (hoyer.marion@epa.gov).

⁴¹ Numbers in the text may not add to 100% due to rounding; the percentages in Table 3 are the values we used to calculate the draft 2011 NEI.

Attachment A

Table A-1: Scaling factors

Year	U.S. Product Supplied of Aviation Gasoline (Thousand Barrels) ⁴²	Ratio of 2011 to Year X
Before 1981 ⁴³		0.55
1981	11,147	0.48
1982	9,307	0.58
1983	9,444	0.57
1984	8,692	0.62
1985	9,969	0.54
1986	11,673	0.46
1987	9,041	0.59
1988	9,705	0.55
1989	9,427	0.57
1990	8,910	0.60
1991	8,265	0.65
1992	8,133	0.66
1993	7,606	0.70
1994	7,555	0.71
1995	7,841	0.68
1996	7,400	0.72
1997	7,864	0.68
1998	7,032	0.76
1999	7,760	0.69
2000	7,188	0.75
2001	6,921	0.77
2002	6,682	0.80
2003	5,987	0.90
2004	6,189	0.87
2005	7,006	0.77
2006	6,626	0.81
2007	6,258	0.86
2008	5,603	0.96
2009	5,261	1.02
2010	5,358	1.00
2011	5,362	1.00

⁴²Data from the Energy Information Administration's (EIA's) table, "U.S. Product Supplied of Aviation Gasoline (Thousand Barrels)." Available at: <http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=mgaupus1&f=A> Accessed March 28, 2012.

⁴³EIA does not have data for volumes of avgas product supplied for years earlier than 1981. To calculate the scaling factor to use for activity data from years before 1981, we used the ratio of 2011 avgas volume product supplied to the average avgas volume supplied from 1981 to 1989.

Appendix B - Instructions for State Review

2014 Aircraft LTO Data Processing for the National Emission Inventory

Purpose

To assist state, local, and tribal agencies in their submittal of aircraft-related activity data, EPA has compiled the aircraft landing and takeoff (LTO) data from several Federal Aviation Administration's (FAA) data sources including the following: T-100 dataset, Terminal Area Forecast (TAF) data, Air Traffic Activity Data Systems (ATADS) data, and Airport Master Record (form 5010) data. These data are available for review and revision by agencies in order to accurately estimate activity data for all aircraft types. These compiled data, including local revisions, will be used to calculate the 2014 National Emission Inventory (NEI) aviation emissions.

Please note that by reviewing and correcting the LTO data in this dataset you will NOT need to submit an airport emissions file to EIS. You may also add touch and goes (TGO) to the LTO data. If you send the revisions back to EPA now, EPA will perform the processing tasks required, such as matching EIS facility, unit, and process IDs for the airports, as well submitting the emissions inventory to the EIS Gateway. This will be the easiest way for agencies to submit local data into EIS; those who choose not to participate in this data gathering process, but still want local emissions data included in EIS, will be required to prepare their data to meet all EIS input requirements and submit it themselves.

Note EPA strongly encourages agencies to review and, if necessary, submit their LTO data to the EPA via this review process. In doing so, then states need not run the FAA emissions model or submit EIS xml files for the 2014 NEI.

Background

The T-100 data is derived from commercial aviation operations, reported directly by the airlines and specifically includes very detailed information about large commercial air carriers and air taxis. Because the T-100 aircraft data are provided for individual aircraft specifying manufacturer and aircraft model, they can be matched to specific aircraft in the FAA's Emission Dispersion and Modeling Systems (EDMS) which is a computer tool used to estimate emissions. Because of the details provided in T-100, it is also possible to identify which aircraft are typically used for air taxi services based on typical passenger capacity. All non-air taxi data in the T-100 data are assumed to be larger commercial aircraft.

The FAA's TAF and ATADS datasets do not provide operations data at the aircraft manufacturer and model level of detail that the T-100 data does; instead, operations are provided for general aircraft types (i.e., air carriers, air taxis, general aviation and military). ATADS includes actual operations at FAA controlled facilities, while TAF includes the ATADS data and also modeled operations for other non-FAA control facilities. Note that the TAF and ATADS data are provided

as operations (separate operation counts for each landing and takeoff leg), such that the TAF and ATADS operations need to be divided by 2 to get LTOs.

Because both the T-100 data and the TAF/ATADS data are reported by the airports include commercial air carriers and air taxis, the data needs to be adjusted to avoid issues of double counting when the two datasets are combined. This adjustment is done by summing up the air taxi and large commercial aircraft LTOs reported in the T-100 data for each airport and comparing these values to the commercial and air taxi data from TAF and ATADS at the same airport. Priority is given to maintaining T100 data due to its higher specificity as follows:

- If the TAF/ATADS LTO value is greater than the T-100 value for a specific aircraft type and airport, then the T-100 value was subtracted from the TAF/ATADS value. e.g., T100 reports 1000 LTO for Airport1, whereas TAF reports 2000. The database will include 1000 LTO from T100 and 1000 LTO from TAF.
- If the T-100 value was greater than or equal to the TAF value, then the TAF value was set to zero. e.g., T100 reports 2000 LTO for Airport2 and TAF reports 1000. The database will include 2000 LTO from T100 and 0 from TAF.

The 5010 forms are used for airport infrastructure planning include a variety of information about airport operations and characteristics. Such information is particularly important for smaller facilities and military bases where data sources are sparse. The EPA reviewed the data reported in the 5010 submittals to estimate LTO activity for general aviation, air taxis and military operations. These data were compared by SCC to the TAF/ATADS data and adjusted for double counting using a similar approach to that used to adjust the T-100 and TAF/ATADS data. The TAF/ATADS data was considered to be of higher quality than the 5010 data and was given priority in the adjustment as the T-100 was prioritized in the T-100 with TAF/ATADS adjustment. The hierarchy summarized in table 1 was used to adjust LTO data.

Table. 1 Summary of LTO Adjustments

T100_LTO	ATADS/TAF_LTO	5010_LTO	Final LTO	Source
>0	Between 0 and [T100_LTO]	Between 0 and [T100_LTO]	0	T100
0	0	>0	>0	5010
0	>0	N/A	>0	ATADS/TAF
>0	>[T100_LTO]	N/A	>0	ATADS/TAF-T100
>0	>0 and <[T100_LTO]	>[T100_LTO]	0	T100
>0	0	>[T100_LTO]	>0	5010-T100

Reviewing/Revising Data

EPA's compiled LTO data are available for state/local/tribal (SLT) agency review. The data are presented as a Microsoft Access 2013 database. The database includes two drop-down menus: one for selecting data by state and one for selecting data by tribal code. Once the state/tribe has been selected, users have the option of viewing the data in Access (this is Read Only and for review ONLY) or exporting the data to a Microsoft Excel 2013 spreadsheet for further review and revisions. Agencies will need to review both the LTO data as well as facility information. The LTO data will include the Airport identification information, aircraft information, and LTO data. Agencies also have the option of adding TGOs or revising LTOs to TGOs in the LTO dataset. The facility data will include airport identification information, address, coordinates, description, and operating status. Revisions should only be made in the exported Excel files and NOT the Access database. The Access Data base is only for review.

Please note that to export the data to Excel, the user will first need to create a folder on the C drive of their computer called "2014 NEI LTO Review" (C:\2014 NEI LTO Review) The exported Excel file(s) will be generated in this folder. If agencies have difficulties accessing the data due to having an earlier version of Access or Excel please contact Laurel Driver at 919.541.2859 or driver.laurel@epa.gov for assistance. It is important to note that revisions should be made in the Excel files ONLY and not the Access file as described below to facilitate EPA processing and avoid errors:

- Once the Excel files have been created. Please add your state or tribe to the file name. This will prevent you from accidentally overriding the file if you export again and will differentiate files when they are sent to the EPA.
- Revising Data: Existing LTO data can be corrected in the Excel file by adding the new data value to the "Revised LTO" column and marking it as a "Revision" in the "Revisions Comment" field.
- Removing Data: Please DO NOT DELETE ANY ROWS in the Excel spreadsheet. If you want to remove LTO data, simply change the "Revised LTO" column to 0 and mark it as a "Revision" in the "Revisions Comment" field.
- Adding Data: Rows can be added in the Excel file to account for new aircraft or engine type combination. Please make sure that the airport, aircraft, and engine combination does not already exist in the dataset before adding new rows, as adding an existing combination may cause double counting. When adding a row, fill in all other fields when possible, including the EISFacilitySiteIdentifier where possible. Also, leave the "PrimaryKey" and the "EPA LTO" fields blank, as these fields are for internal record keeping.

- The EPA will assume a default taxi in time of 7 minutes and a default taxi out time of 19 minutes. If states want to revise the taxi in or out time for specific airports please add the correct times in revised taxi in time and revised taxi out time columns in the Excel file.
- Please note there are some airports in the dataset with limited information pertaining to the airport name, county FIPs, and addresses. Please add additional information if possible in the Excel file.
- There may also be issues with geographic data for airports. In many of the new airports the latitude and longitude are inconsistent with the FIP, city, state, and zip code. Please review and correct these issues if possible in the Excel file.

See figures 1, 2, 3, and 4 for examples on how to correctly submit LTO revisions using the Excel Files. See figures 5, 6, and 7 for examples on how to correctly submit airport revisions using the Excel Files. Please note that some EIS-required fields (i.e., EISEmissionsUnitIdentifier and EISEmissionsProcessIdentifier) are not included in the database. These fields were removed to simplify the data revision process and will be added by EPA. Each facility in EIS already has a static unique EIS FacilitySiteIdentifier which. The three digit alphanumeric airport code may not have been submitted by your agency and may not be familiar. (Note that the FacilitySiteIdentifier indicated may be one of many alternate ones for a given airport). Agencies should feel free to revise and add other codes. You may also find alternate facility codes in EIS by looking up the EIS FacilitySiteIdentifier or airport name on the EIS gateway.

Some airports in the database currently do not have an EISFacilitySiteIdentifier; these are new airports to the NEI in 2014, and EPA will add these during processing. If your airport is not included in this database (either with or without an EISFacilitySiteIdentifier) please add the airport and be prepared to provide the airport's street address, city, state, zip, and latitude/longitude coordinates in the airport revisions.

The AircraftEngineTypeCodes are available under the Reporting Code Tables link in the EIS gateway.

Submitting Data to EPA

States must submit their changes by **October 30** to this email address managed by EPA's contractor Eastern Research Group (ERG): NEI@ERG.com. If no changes are required, please indicate that you accept EPA's estimates via an EIS support request (as you would for any category of data for which you accept EPA estimates), or by sending an email indicating acceptance to the above address. Note this email account has a 10 MB limit. If a state submittal is larger than 10 MB, a

message can be left at this e-mail address requesting data transfer using a secure FTP site. A representative from ERG will respond to this request with instructions how to access the FTP site.

The EPA will review the state-submitted data to ensure that it is appropriate and reasonable. Once the LTO data have been finalized, then the aircraft specific LTO data will be run using the latest version of EDMS to estimate criteria and HAP emissions for aircraft engine exhaust, auxiliary power units, and ground support equipment. The remaining aircraft type data will be applied to generic emission factors.

Again, if you need assistance, contact Laurel Driver at 919.541.2859 or driver.laurel@epa.gov.

Note EPA strongly encourages agencies to review and, if necessary, submit their LTO data to the EPA via this review process. In doing so, then states need not run the FAA emissions model or submit EIS xml files for the 2014 NEI.

Figure 1. Exported LTO Data from Access Database for Review (no changes)

Primary Key	StateAnd County FIPSCode	Tribal Code	Airport	State	FacilitySite Identifier	EISFacility Site Identifier	Source Classification Code	Process Description	Aircraft Engine TypeCode	EPA_LTO	Revised_LTO	Revised_TGO	Revised_Taxi_In_ (default_7_min)	Revised_Taxi_Out_ (default_19_min)	Revision Comment
1	37001		Example Airport	NC	AAA	10000000	2275050011	Aircraft /General Aviation /Piston	999903	100					
2	37001		Example Airport	NC	AAA	10000000	2275020000	Aircraft/ Commercial	1412	150					

***NOTE: Do not change the Primary Key, these are for internal tracking purposes.**

Figure 2. Example of a LTO revision to an existing record

Primary Key	StateAnd County FIPSCode	Tribal Code	Airport	State	FacilitySite Identifier	EISFacility Site Identifier	Source Classification Code	Process Description	Aircraft Engine TypeCode	EPA_LTO	Revised_LTO	Revised_TGO	Revised_Taxi_In_ (default_7_min)	Revised_Taxi_Out_ (default_19_min)	Revision Comment
1	37001		Example Airport	NC	AAA	10000000	2275050011	Aircraft /General Aviation /Piston	999903	100	82			12	Revision

***NOTE: Do not change the Primary Key, these are for internal tracking purposes.**

Figure 3. Example of a LTO deletion of an existing record

Primary Key	StateAnd County FIPSCode	Tribal Code	Airport	State	FacilitySite Identifier	EISFacility Site Identifier	Source Classification Code	Process Description	Aircraft Engine TypeCode	EPA_LTO	Revised_LTO	Revised_TGO	Revised_Taxi_In_ (default_7_min)	Revised_Taxi_Out_ (default_19_min)	Revision Comment
2	37001		Example Airport	NC	AAA	10000000	2275020000	Aircraft/ Commercial	1412	150	0				Revision

***NOTE: Do not change the Primary Key, these are for internal tracking purposes.**

Figure 4. Example of a LTO additions to the existing dataset

Primary Key	StateAnd County FIPSCode	Tribal Code	Airport	State	FacilitySite Identifier	EISFacility Site Identifier	Source Classification Code	Process Description	Aircraft Engine TypeCode	EPA_LTO	Revised_LTO	Revised_TGO	Revised_Taxi_In_ (default_7_min)	Revised_Taxi_Out_ (default_19_min)	Revision Comment
	37001		Example Airport	NC	AAA	10000000	2275050011	Aircraft /General Aviation /Piston	1415		25			12	Addition
	37001		Example Airport	NC	AAB	10000001	2275020000	Aircraft/ Commercial	1418		30		5		Addition

***NOTE: Primary Keys are null for additions.**

Figure 5. Example of Airport Data to review (no change)

AirportKey	StateAnd County FIPSCode	Tribal Code	Airport	City	State	ZIP	Latitude	Longitude	Facility SiteIdentifier	EISFacility SiteIdentifier	OpStatus	RevisionNotes
293	37001		Example Airport	City	NC	27703	54.14472	-165.60416	AAA		Open	

***NOTE: Do not change the Airport Key, these are for internal tracking purposes.**

Figure 6. Example of Airport Data revised

AirportKey	StateAnd County FIPSCode	Tribal Code	Airport	City	State	ZIP	Latitude	Longitude	Facility SiteIdentifier	EISFacility SiteIdentifier	OpStatus	RevisionNotes
293	37001		Example Airport	Town	NC	27703	99.999	9999.999	AAA		Open	Revised City, Lat, and Long

***NOTE: Do not change the Airport Key, these are for internal tracking purposes.**

Figure 7. Example of Airport Data additional

AirportKey	StateAnd County FIPSCode	Tribal Code	Airport	City	State	ZIP	Latitude	Longitude	Facility SiteIdentifier	EISFacility SiteIdentifier	OpStatus	RevisionNotes
	37001		New Airport	Place	NC	27703	55.5555	777.7777	ZZZ		New, since 2014 Inventory	New Airport

***NOTE: AirportKeys are null for additions.**

Appendix C – State LTO Data

FIP Code	Facility SiteID	EIS Facility SiteID	Airport	SCC	AETC	Revised LTO	Revised TGO	Revised Taxi_In	Revised Taxi_Out	Revision Comment
	ENV	9073511	Wendover	2275020000	1367	215				addition
06111	6CA4	11661211	EAST VALLEY SHERIFF'S STATION	2275050011	999903	35.29	0	3.5	3.5	revision
06111	1CA0	11492511	BOEING SANTA SUSANA	2275001000	999905	0				revision
06111	1CA0	11492511	BOEING SANTA SUSANA	2275020000	999906	0				revision
06111	1CA8	11522411	R I SCIENCE CENTER HELISTOP	2275050011	999903	35.29	0	3.5	3.5	addition
06111	1CA8	11522411	R I SCIENCE CENTER HELISTOP	2275050012	999904	105.79	0	3.5	3.5	addition
06111	02CL	11548811	CONOVER AIR LODGE	2275060011	999901	0				revision
06111	02CL	11548811	CONOVER AIR LODGE	2275060012	999902	0				revision
06111	02CL	11548811	CONOVER AIR LODGE	2275050011	999903	2084	0	3	5	revision
06111	02CL	11548811	CONOVER AIR LODGE	2275050012	999904	0	0	3	5	revision
06111	02CL	11548811	CONOVER AIR LODGE	2275001000	999905	0				revision
06111	02CL	11548811	CONOVER AIR LODGE	2275020000	999906	0				revision
06111	CL82	12507911	LOS ROBLES RGNL MEDICAL CENTER	2275020000	999906	0				revision
06111	6CA4	11661211	EAST VALLEY SHERIFF'S STATION	2275060012	999902	0				revision
06111	1CA0	11492511	BOEING SANTA SUSANA	2275060012	999902	0				revision
06111	6CA4	11661211	EAST VALLEY SHERIFF'S STATION	2275050012	999904	105.79	0	3.5	3.5	revision
06111	6CA4	11661211	EAST VALLEY SHERIFF'S STATION	2275001000	999905	0				revision
06111	6CA4	11661211	EAST VALLEY SHERIFF'S STATION	2275020000	999906	0				revision
06111	6CL3	11661711	WILLIAM SHELLS CO	2275060011	999901	0				revision
06111	6CL3	11661711	WILLIAM SHELLS CO	2275060012	999902	0				revision
06111	6CL3	11661711	WILLIAM SHELLS CO	2275050011	999903	35.29	0	3.5	3.5	revision
06111	6CL3	11661711	WILLIAM SHELLS CO	2275050012	999904	105.79	0	3.5	3.5	revision

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06111	6CL3	11661711	WILLIAM SHELLS CO	2275001000	999905	0				revision
06111	6CL3	11661711	WILLIAM SHELLS CO	2275020000	999906	0				revision
06111	6CA4	11661211	EAST VALLEY SHERIFF'S STATION	2275060011	999901	0				revision
06111	CMA	9829311	Camarillo	2275060012	2107	5.940929	0	6.5	6.5	addition
06111	CMA	9829311	Camarillo	2275060012	1632	638.2255	0	6.5	6.5	addition
06111	CMA	9829311	Camarillo	2275020000	1870	5.940929	0	6.5	6.5	addition
06111	CMA	9829311	Camarillo	2275020000	1876	137.4901	0	6.5	6.5	addition
06111	CMA	9829311	Camarillo	2275060011	2048	1527.487	0	4	12	addition
06111	CMA	9829311	Camarillo	2275060011	2061	1963.519	655.4241	4	12	addition
06111	CMA	9829311	Camarillo	2275060011	2063	1527.487	0	4	12	addition
06111	CMA	9829311	Camarillo	2275060011	2065	654.5062	218.4747	4	12	addition
06111	CMA	9829311	Camarillo	2275060011	2066	1527.487	0	4	12	addition
06111	CMA	9829311	Camarillo	2275060011	2067	1145.615	0	4	12	addition
06111	1CA0	11492511	BOEING SANTA SUSANA	2275050012	999904	105.79	0	3.5	3.5	revision
06111	CMA	9829311	Camarillo	2275060012	2099	5.940929	0	6.5	6.5	addition
06111	1CA0	11492511	BOEING SANTA SUSANA	2275050011	999903	35.29	0	3.5	3.5	revision
06111	CMA	9829311	Camarillo	2275060012	2124	1916.374	0	6.5	6.5	addition
06111	CMA	9829311	Camarillo	2275060011	2142	675.6193	0	3.5	3.5	addition
06111	CA72	11306711	COMMUNITY MEMORIAL HOSPITAL	2275060011	999901	0				revision
06111	CA72	11306711	COMMUNITY MEMORIAL HOSPITAL	2275060012	999902	0				revision
06111	CA72	11306711	COMMUNITY MEMORIAL HOSPITAL	2275050011	999903	35.29	0	3.5	3.5	revision
06111	CA72	11306711	COMMUNITY MEMORIAL HOSPITAL	2275050012	999904	105.79	0	3.5	3.5	revision
06111	CA72	11306711	COMMUNITY MEMORIAL HOSPITAL	2275001000	999905	0				revision

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06111	CA72	11306711	COMMUNITY MEMORIAL HOSPITAL	2275020000	999906	0				revision
06111	1CA0	11492511	BOEING SANTA SUSANA	2275060011	999901	0				revision
06111	6CL5	11661911	MAJLAR	2275050011	999903	35.29	0	3.5	3.5	revision
06111	CMA	9829311	Camarillo	2275060011	2089	381.8718	0	4	12	addition
06111	CL73	12507011	ROTOR-AIDS MAINTENANCE HANGAR	2275060011	999901	0				revision
06111	53CA	11985211	HUMMINGBIRD NEST	2275050012	999904	105.79	0	3.5	3.5	revision
06111	53CA	11985211	HUMMINGBIRD NEST	2275001000	999905	0				revision
06111	53CA	11985211	HUMMINGBIRD NEST	2275020000	999906	0				revision
06111	2CL6	11994311	ST JOHN'S RGNL MEDICAL CENTER	2275060011	999901	0				revision
06111	2CL6	11994311	ST JOHN'S RGNL MEDICAL CENTER	2275060012	999902	0				revision
06111	2CL6	11994311	ST JOHN'S RGNL MEDICAL CENTER	2275050011	999903	35.29	0	3.5	3.5	revision
06111	2CL6	11994311	ST JOHN'S RGNL MEDICAL CENTER	2275050012	999904	105.79	0	3.5	3.5	revision
06111	2CL6	11994311	ST JOHN'S RGNL MEDICAL CENTER	2275001000	999905	0				revision
06111	2CL6	11994311	ST JOHN'S RGNL MEDICAL CENTER	2275020000	999906	0				revision
06111	6CL5	11661911	MAJLAR	2275060011	999901	0				revision
06111	CL34	12492611	FIRST INTERSTATE BANK	2275050012	999904	105.79	0	3.5	3.5	addition
06111	53CA	11985211	HUMMINGBIRD NEST	2275060011	999901	0				revision
06111	CL73	12507011	ROTOR-AIDS MAINTENANCE HANGAR	2275060012	999902	0				revision
06111	CL73	12507011	ROTOR-AIDS MAINTENANCE HANGAR	2275050011	999903	35.29	0	3.5	3.5	revision
06111	CL73	12507011	ROTOR-AIDS MAINTENANCE HANGAR	2275050012	999904	105.79	0	3.5	3.5	revision

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06111	CL73	12507011	ROTOR-AIDS MAINTENANCE HANGAR	2275001000	999905	0				revision
06111	CL73	12507011	ROTOR-AIDS MAINTENANCE HANGAR	2275020000	999906	0				revision
06111	CL82	12507911	LOS ROBLES RGNL MEDICAL CENTER	2275060011	999901	0				revision
06111	CL82	12507911	LOS ROBLES RGNL MEDICAL CENTER	2275060012	999902	0				revision
06111	CL82	12507911	LOS ROBLES RGNL MEDICAL CENTER	2275050011	999903	35.29	0	3.5	3.5	revision
06111	CL82	12507911	LOS ROBLES RGNL MEDICAL CENTER	2275050012	999904	105.79	0	3.5	3.5	revision
06111	CL82	12507911	LOS ROBLES RGNL MEDICAL CENTER	2275001000	999905	0				revision
06111	CL34	12492611	FIRST INTERSTATE BANK	2275050011	999903	35.29	0	3.5	3.5	addition
06111	82CA	11784711	SCE MOORPARK SUBSTATION	2275050011	999903	35.29	0	3.5	3.5	revision
06111	CMA	9829311	Camarillo	2275060011	1568	654.5062	218.4747	4	12	addition
06111	6CL5	11661911	MAJLAR	2275050012	999904	105.79	0	3.5	3.5	revision
06111	6CL5	11661911	MAJLAR	2275001000	999905	0				revision
06111	6CL5	11661911	MAJLAR	2275020000	999906	0				revision
06111	96CL	11703311	TWI II	2275060011	999901	0				revision
06111	96CL	11703311	TWI II	2275060012	999902	0				revision
06111	96CL	11703311	TWI II	2275050011	999903	35.29	0	3.5	3.5	revision
06111	96CL	11703311	TWI II	2275050012	999904	105.79	0	3.5	3.5	revision
06111	96CL	11703311	TWI II	2275001000	999905	0				revision
06111	96CL	11703311	TWI II	2275020000	999906	0				revision
06111	53CA	11985211	HUMMINGBIRD NEST	2275050011	999903	35.29	0	3.5	3.5	revision
06111	82CA	11784711	SCE MOORPARK SUBSTATION	2275060012	999902	0				revision
06111	53CA	11985211	HUMMINGBIRD NEST	2275060012	999902	0				revision
06111	82CA	11784711	SCE MOORPARK SUBSTATION	2275050012	999904	105.79	0	3.5	3.5	revision

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06111	82CA	11784711	SCE MOORPARK SUBSTATION	2275001000	999905	0				revision
06111	82CA	11784711	SCE MOORPARK SUBSTATION	2275020000	999906	0				revision
06111	3CL9	11924711	SCE NORTHERN DIVISION	2275060011	999901	0				revision
06111	3CL9	11924711	SCE NORTHERN DIVISION	2275060012	999902	0				revision
06111	3CL9	11924711	SCE NORTHERN DIVISION	2275050011	999903	35.29	0	3.5	3.5	revision
06111	3CL9	11924711	SCE NORTHERN DIVISION	2275050012	999904	105.79	0	3.5	3.5	revision
06111	3CL9	11924711	SCE NORTHERN DIVISION	2275001000	999905	0				revision
06111	3CL9	11924711	SCE NORTHERN DIVISION	2275020000	999906	0				revision
06111	6CL5	11661911	MAJLAR	2275060012	999902	0				revision
06111	82CA	11784711	SCE MOORPARK SUBSTATION	2275060011	999901	0				revision
06111	OXR	9828711	Oxnard	2275060011	1628	288.4374	96.1458	3	11	addition
06111	CMA	9829311	Camarillo	2275060011	1628	654.5062	218.4747	4	12	addition
06111	OXR	9828711	Oxnard	2275060011	1514	5772.928	1924.588	3	11	addition
06111	OXR	9828711	Oxnard	2275060011	1515	962.294	321.0434	3	11	addition
06111	OXR	9828711	Oxnard	2275060011	1516	4810.634	1603.545	3	11	addition
06111	OXR	9828711	Oxnard	2275060011	1520	576.8748	192.2916	3	11	addition
06111	OXR	9828711	Oxnard	2275060011	1525	537.5804	0	3	11	addition
06111	OXR	9828711	Oxnard	2275060011	1528	537.5804	0	3	11	addition
06111	OXR	9828711	Oxnard	2275060012	1530	16.72101	0	5.5	5.5	addition
06111	OXR	9828711	Oxnard	2275060011	1567	288.4374	96.1458	3	11	addition
06111	OXR	9828711	Oxnard	2275060011	1511	288.4374	96.1458	3	11	addition
06111	OXR	9828711	Oxnard	2275060012	1590	4.180252	0	5.5	5.5	addition
06111	OXR	9828711	Oxnard	2275060012	1431	4.180252	0	5.5	5.5	addition
06111	OXR	9828711	Oxnard	2275060012	1632	16.72101	0	5.5	5.5	addition
06111	OXR	9828711	Oxnard	2275060012	1638	3024.002	0	3	8	addition
06111	OXR	9828711	Oxnard	2275020000	1876	4.180252	0	5.5	5.5	addition

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06111	OXR	9828711	Oxnard	2275060011	2048	1075.997	0	3	11	addition
06111	OXR	9828711	Oxnard	2275060011	2061	865.3122	288.4374	3	11	addition
06111	OXR	9828711	Oxnard	2275060011	2063	1075.997	0	3	11	addition
06111	OXR	9828711	Oxnard	2275060011	2065	288.4374	96.1458	3	11	addition
06111	OXR	9828711	Oxnard	2275060011	2066	1075.997	0	3	11	addition
06111	OXR	9828711	Oxnard	2275060011	2067	806.7887	0	3	11	addition
06111	OXR	9828711	Oxnard	2275060011	2089	269.2082	0	3	11	addition
06111	OXR	9828711	Oxnard	2275060011	1568	288.4374	96.1458	3	11	addition
06111	SZP	9828611	Santa Paula	2275060011	2063	1117	372	3	5	addition
06111	SZP	9828611	Santa Paula	2275060012	999902	0				revision
06111	SZP	9828611	Santa Paula	2275050012	999904	0				revision
06111	SZP	9828611	Santa Paula	2275001000	999905	0				revision
06111	SZP	9828611	Santa Paula	2275020000	999906	0				revision
06111	SZP	9828611	Santa Paula	2275060012	543	241	0	3.5	3.5	addition
06111	SZP	9828611	Santa Paula	2275060011	1511	4469	1490	3	5	addition
06111	SZP	9828611	Santa Paula	2275060011	1512	1117	372	3	5	addition
06111	SZP	9828611	Santa Paula	2275060011	1513	2234	744	3	5	addition
06111	SZP	9828611	Santa Paula	2275060011	1514	6703	2234	3	5	addition
06111	OXR	9828711	Oxnard	2275060011	1513	4810.634	1603.545	3	11	addition
06111	SZP	9828611	Santa Paula	2275060011	2060	1117	372	3	5	addition
06111	OXR	9828711	Oxnard	2275060011	2142	363.6819	0	3	3	addition
06111	SZP	9828611	Santa Paula	2275060011	2089	321	0	3	5	addition
06111	SZP	9828611	Santa Paula	2275060012	2124	161	0	3	5	addition
06111	SZP	9828611	Santa Paula	2275060011	2142	80	0	3.5	3.5	addition
06111	OXR	9828711	Oxnard	2275060011	999901	0				revision
06111	OXR	9828711	Oxnard	2275060012	999902	0				revision

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06111	OXR	9828711	Oxnard	2275050011	999903	0				revision
06111	OXR	9828711	Oxnard	2275050012	999904	0				revision
06111	OXR	9828711	Oxnard	2275001000	999905	0				revision
06111	OXR	9828711	Oxnard	2275060012	543	1090.21	0	3	3	addition
06111	SZP	9828611	Santa Paula	2275060011	1515	1117	372	3	5	addition
06111	CMA	9829311	Camarillo	2275060011	1516	10902.62	3634.208	4	12	addition
06111	CMA	9829311	Camarillo	2275060012	543	2026.858	0	3.5	3.5	addition
06111	CMA	9829311	Camarillo	2275060012	1431	137.4901	0	6.5	6.5	addition
06111	CMA	9829311	Camarillo	2275060012	1435	5.940929	0	6.5	6.5	addition
06111	CMA	9829311	Camarillo	2275020000	1438	5.940929	0	6.5	6.5	addition
06111	CMA	9829311	Camarillo	2275060012	1447	5.940929	0	6.5	6.5	addition
06111	CMA	9829311	Camarillo	2275060012	1454	5.940929	0	6.5	6.5	addition
06111	CMA	9829311	Camarillo	2275060012	1461	5.940929	0	6.5	6.5	addition
06111	CMA	9829311	Camarillo	2275060011	1511	654.5062	218.4747	4	12	addition
06111	CMA	9829311	Camarillo	2275060011	1513	10902.62	3634.208	4	12	addition
06111	OXR	9828711	Oxnard	2275060012	2108	4.180252	0	5.5	5.5	addition
06111	CMA	9829311	Camarillo	2275060011	1515	2180.157	727.0251	4	12	addition
06111	CMA	9829311	Camarillo	2275050011	999903	0				revision
06111	CMA	9829311	Camarillo	2275060011	1520	1309.012	436.9494	4	12	addition
06111	CMA	9829311	Camarillo	2275060011	1525	763.7435	0	4	12	addition
06111	CMA	9829311	Camarillo	2275060011	1528	763.7435	0	4	12	addition
06111	CMA	9829311	Camarillo	2275060012	1530	638.2255	0	6.5	6.5	addition
06111	CMA	9829311	Camarillo	2275060012	1539	17.82279	0	6.5	6.5	addition
06111	CMA	9829311	Camarillo	2275060012	1543	5.940929	0	6.5	6.5	addition
06111	CMA	9829311	Camarillo	2275060012	1544	5.940929	0	6.5	6.5	addition
06111	CMA	9829311	Camarillo	2275060012	1549	5.940929	0	6.5	6.5	addition

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06111	CMA	9829311	Camarillo	2275060011	1567	654.5062	218.4747	4	12	addition
06111	SZP	9828611	Santa Paula	2275050011	999903	0				revision
06111	CMA	9829311	Camarillo	2275060011	1514	13082.78	4361.233	4	12	addition
06111	NSI	9829211	San Nicolas Island	2275060011	999901	0				revision
06111	CMA	9829311	Camarillo	2275060012	1590	137.4901	0	6.5	6.5	addition
06111	NTD	9828811	Point Mugu Nas (Naval B	2275060011	999901	0				revision
06111	NTD	9828811	Point Mugu Nas (Naval B	2275060012	999902	0				revision
06111	NTD	9828811	Point Mugu Nas (Naval B	2275050011	999903	0				revision
06111	NTD	9828811	Point Mugu Nas (Naval B	2275050012	999904	0				revision
06111	NTD	9828811	Point Mugu Nas (Naval B	2275001000	999905	0				revision
06111	CMA	9829311	Camarillo	2275001000	999905	0				revision
06111	NTD	9828811	Point Mugu Nas (Naval B	2275020000	676	1	0			addition
06111	CMA	9829311	Camarillo	2275050012	999904	0				revision
06111	NSI	9829211	San Nicolas Island	2275060012	999902	0				revision
06111	NSI	9829211	San Nicolas Island	2275050011	999903	0				revision
06111	NSI	9829211	San Nicolas Island	2275050012	999904	0				revision
06111	NSI	9829211	San Nicolas Island	2275001000	999905	0				revision
06111	NSI	9829211	San Nicolas Island	2275020000	999906	0				revision
06111	CMA	9829311	Camarillo	2275060012	2108	137.49	0	6.5	6.5	revision
06111	CMA	9829311	Camarillo	2275060011	999901	0				revision
06111	CMA	9829311	Camarillo	2275060012	999902	0				revision
06111	OXR	9828711	Oxnard	2275060012	2124	50.99908	0	5.5	5.5	addition
06111	NTD	9828811	Point Mugu Nas (Naval B	2275020000	999906	0				revision
06111	SZP	9828611	Santa Paula	2275060011	999901	0				revision
09001	OCT7	11014011	BRIDGEPORT HOSPITAL	2275050011	999903	0				revision
09001	CT56	11316511	50 WASHINGTON STREET	2275050011	999903	0	0			revision

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09001	CT56	11316511	50 WASHINGTON STREET	2275050012	999904	0	0			revision
09001	0CT8	11517611	DANBURY HOSPITAL	2275050012	999904	31				revision
09001	CT52	12305511	FLYING RIDGE AIRSTRIP	2275050011	999903	12				revision
09001	CT76	11317011	CHASE MANHATTAN BANK OF CT	2275050012	999904	0	0			revision
09001	CT41	11316111	GENERAL ELECTRIC	2275050011	999903	0				revision
09001	CT41	11316111	GENERAL ELECTRIC	2275050012	999904	522				revision
09001	0CT7	11014011	BRIDGEPORT HOSPITAL	2275050012	999904	32				revision
09001	CT76	11317011	CHASE MANHATTAN BANK OF CT	2275050011	999903	0	0			revision
09001	5CT8	11193811	CANAL STREET	2275050012	999904	34				revision
09001	5CT8	11193811	CANAL STREET	2275050011	999903	0				revision
09001	0CT8	11517611	DANBURY HOSPITAL	2275050011	999903	0				revision
09001	JSD	12395011	SIKORSKY	2275050011	999903	0				revision
09001	JSD	12395011	SIKORSKY	2275050012	999904	2893				revision
09001	CT37	12291011	SIKORSKY BRIDGEPORT	2275050011	999903	0				revision
09001	CT91	12308011	USSC	2275050011	999903	0				revision
09001	CT91	12308011	USSC	2275050012	999904	1				revision
09001	CT89	12307811	ITT	2275050011	999903	0				revision
09001	CT12	11315111	MEDICAL CENTER	2275050011	999903	0				revision
09001	1CT0	11018911	NORDEN SYSTEMS	2275050011	999903	0				revision
09001	1CT0	11018911	NORDEN SYSTEMS	2275050012	999904	0				revision
09001	5CT4	11847111	NORWALK HOSPITAL	2275050011	999903	0				revision
09001	CT12	11315111	MEDICAL CENTER	2275050012	999904	12				revision
09001	CT89	12307811	ITT	2275050012	999904	0				revision
09003	CT87	12307611	BOOTLEGGERS	2275050011	999903	0				revision
09003	BDL	9792411	Bradley Intl	2275050012	2114	1319				revision

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09003	01CT	10937011	BERLIN FAIRGROUNDS	2275050011	999903	0				revision
09003	01CT	10937011	BERLIN FAIRGROUNDS	2275050012	999904	0				revision
09003	CT14	11315311	BANCROFT	2275050011	999903	50				revision
09003	BDL	9792411	Bradley Intl	2275050012	1878	659				revision
09003	BDL	9792411	Bradley Intl	2275050011	999903	50				revision
09003	0CT5	11517511	ST FRANCIS HOSPITAL	2275050012	999904	86				revision
09003	CT27	12290311	TENNESSEE F	2275050011	999903	0				revision
09003	CT27	12290311	TENNESSEE F	2275050012	999904	0				revision
09003	CT28	12290411	VETERANS HOME & HOSPITAL	2275050012	999904	0				revision
09003	CT28	12290411	VETERANS HOME & HOSPITAL	2275050011	999903	0				revision
09003	CT60	12306211	ULTIMATE	2275050012	999904	0				revision
09003	CT60	12306211	ULTIMATE	2275050011	999903	2				revision
09003	7B6	11649711	SKYLARK AIRPARK	2275060011	999901	25				revision
09003	9B8	11285611	SALMON RIVER AIRFIELD	2275050011	999903	540				revision
09003	9B8	11285611	SALMON RIVER AIRFIELD	2275050012	999904	0				revision
09003	7B6	11649711	SKYLARK AIRPARK	2275001000	999905	0				revision
09003	0CT5	11517511	ST FRANCIS HOSPITAL	2275050011	999903	0				revision
09003	CT73	12306611	SOUTH MEADOWS	2275050012	999904	0				revision
09003	CT73	12306611	SOUTH MEADOWS	2275050011	999903	50				revision
09003	7B6	11649711	SKYLARK AIRPARK	2275050011	999903	10850				revision
09003	7B6	11649711	SKYLARK AIRPARK	2275050012	999904	4200				revision
09003	5CT3	11193611	SOUTH GLASTONBURY	2275050012	999904	0				revision
09003	5CT3	11193611	SOUTH GLASTONBURY	2275050011	999903	0				revision
09003	7B6	11649711	SKYLARK AIRPARK	2275060012	999902	75				revision
09003	CT19	11315611	LAURIE FIELD	2275050011	999903	20				revision

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09003	BDL	9792411	Bradley Intl	2275050012	3049	3298				revision
09003	CT05	12289311	KAMAN AEROSPACE CORP	2275050012	999904	392				revision
09003	CT05	12289311	KAMAN AEROSPACE CORP	2275050011	999903	0				revision
09003	OCT9	11517711	HARTFORD HOSPITAL	2275050012	999904	1646				revision
09003	CT75	12306811	HURLBRINK	2275050011	999903	0				revision
09003	CT88	12307711	RENTSCHLER	2275050012	999904	112				revision
09003	CT50	12305311	MARKS	2275050011	999903	0				revision
09003	CT88	12307711	RENTSCHLER	2275050011	999903	0				revision
09003	CT85	12307411	ROBERTS FARM	2275050011	999903	50				revision
09003	OCT3	11013811	N B G H	2275050011	999903	0				revision
09003	CT20	12289911	RANKL FIELD	2275050011	999903	0	0			revision
09003	CT50	12305311	MARKS	2275050012	999904	0				revision
09003	CT71	12306511	OTIS HELISTOP DIVISION OF UTC	2275050011	999903	0				revision
09003	CT71	12306511	OTIS HELISTOP DIVISION OF UTC	2275050012	999904	232				revision
09003	OCT3	11013811	N B G H	2275050012	999904	7				revision
09003	CT38	11316011	CORPORATE CENTER	2275050012	999904	0	0			revision
09003	CT38	11316011	CORPORATE CENTER	2275050011	999903	0	0			revision
09003	CT02	12289111	CLARK HILL	2275050012	999904	45				revision
09003	CT02	12289111	CLARK HILL	2275050011	999903	0				revision
09003	BDL	9792411	Bradley Intl	2275060012	2052	2				revision
09003	BDL	9792411	Bradley Intl	2275060011	999901	50				revision
09003	BDL	9792411	Bradley Intl	2275060012	1463	808				revision
09003	BDL	9792411	Bradley Intl	2275060012	1469	530				revision
09003	BDL	9792411	Bradley Intl	2275060012	1471	194				revision
09003	OCT9	11517711	HARTFORD HOSPITAL	2275050011	999903	0				revision

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09003	CT03	12289211	BRISTOL HOSPITAL	2275050011	999903	0				revision
09003	BDL	9792411	Bradley Intl	2275060012	2085	3527				revision
09003	BDL	9792411	Bradley Intl	2275060012	1519	322				revision
09003	CT35	12290811	HAMILTON STANDARD	2275050011	999903	0				revision
09003	CT96	12308511	GREEN ACRES	2275050011	999903	156				revision
09003	CT23	11315711	DELLA	2275050011	999903	0	0			revision
09003	BDL	9792411	Bradley Intl	2275060012	1553	2				revision
09003	CT23	11315711	DELLA	2275050012	999904	0	0			revision
09003	CT00	11314711	ELECTRO-METHODS INC	2275050012	999904	0				revision
09003	CT35	12290811	HAMILTON STANDARD	2275050012	999904	0				revision
09003	CT06	11314811	DELTA ONE	2275050011	999903	0	0			revision
09003	CT06	11314811	DELTA ONE	2275050012	999904	0	0			revision
09003	CT00	11314711	ELECTRO-METHODS INC	2275050011	999903	0				revision
09005	0CT0	11517211	SHARON HOSPITAL	2275050011	999903	0				revision
09005	0CT0	11517211	SHARON HOSPITAL	2275050012	999904	28				revision
09005	04CT	10946911	SHINGLE MILL	2275050011	999903	0				revision
09005	04CT	10946911	SHINGLE MILL	2275050012	999904	20				revision
09005	CT44	12304911	RIPLEY FIELD	2275050011	999903	0	0			revision
09005	05CT	11563311	O AND G	2275050012	999904	0				revision
09005	CT42	11316211	WINGS AGO AIRSTRIP	2275050011	999903	3				revision
09005	N41	12470011	WATERBURY	2275050012	999904	0				revision
09005	N41	12470011	WATERBURY	2275050011	999903	2980				revision
09005	CT01	12289011	WHELAN FARMS	2275050011	999903	900				revision
09005	11N	10995811	CANDLELIGHT FARMS	2275050012	999904	0				revision
09005	11N	10995811	CANDLELIGHT FARMS	2275050011	999903	1035				revision
09005	6Y2	11778911	CANDLELIGHT	2275050011	999903	0				revision

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09005	6Y2	11778911	CANDLELIGHT	2275050012	999904	40				revision
09005	05CT	11563311	O AND G	2275050011	999903	0				revision
09005	CT51	12305411	DOCKTORS FIELD	2275050011	999903	1				revision
09005	N09	12469211	NORTHFIELD	2275050012	999904	0				revision
09005	N09	12469211	NORTHFIELD	2275050011	999903	0				revision
09005	CT24	11315811	NORTH CANAAN AVIATION FACILITIES INC	2275050012	999904	196				revision
09005	CT24	11315811	NORTH CANAAN AVIATION FACILITIES INC	2275050011	999903	1604				revision
09005	CT66	11316711	LONG VIEW LANDING	2275050011	999903	204				revision
09007	CT98	12308711	MIDDLESEX HOSPITAL	2275050011	999903	0				revision
09007	0CT6	11013911	MIDDLETOWN	2275050012	999904	10				revision
09007	0CT6	11013911	MIDDLETOWN	2275050011	999903	0				revision
09007	CT98	12308711	MIDDLESEX HOSPITAL	2275050012	999904	30				revision
09007	CT86	12307511	SANFORD	2275050011	999903	0				revision
09007	CT97	12308611	SHORELINE CLINIC	2275050011	999903	0				revision
09007	CT97	12308611	SHORELINE CLINIC	2275050012	999904	37				revision
09007	CT86	12307511	SANFORD	2275050012	999904	0				revision
09007	CT92	12308111	BEMER	2275050011	999903	0				revision
09007	CT92	12308111	BEMER	2275050012	999904	12				revision
09007	CT39	12291111	MAPLEWOOD FARM	2275050011	999903	60				revision
09007	CT11	12289611	DEVILS HOPYARD FIELD	2275050011	999903	250				revision
09009	CT84	12307311	PARTYKA CHEVROLET	2275050012	999904	0				revision
09009	CT84	12307311	PARTYKA CHEVROLET	2275050011	999903	0				revision
09009	CT25	12290211	MIRY DAM	2275050012	999904	0	0			revision
09009	CT25	12290211	MIRY DAM	2275050011	999903	0	0			revision
09009	1CT3	11019111	ST MARY'S	2275050011	999903	0				revision

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09009	4C3	11160811	HUMMINGBIRD	2275050011	999903	500				revision
09009	4C3	11160811	HUMMINGBIRD	2275050012	999904	500				revision
09009	CT95	12308411	MERIDEN-WALLINGFORD HOSPITAL	2275050011	999903	0				revision
09009	CT95	12308411	MERIDEN-WALLINGFORD HOSPITAL	2275050012	999904	22				revision
09009	CT46	11316311	MILFORD-ALEXANDER	2275050011	999903	0				revision
09009	CT46	11316311	MILFORD-ALEXANDER	2275050012	999904	0				revision
09009	1CT2	11019011	YALE NEW HAVEN HOSPITAL	2275050011	999903	0				revision
09009	1CT2	11019011	YALE NEW HAVEN HOSPITAL	2275050012	999904	248				revision
09009	CT21	12290011	C N FLAGG	2275050011	999903	0	0			revision
09009	0CT1	11517311	BRISTOL-MYERS SQUIBB COMPANY	2275050012	999904	309				revision
09009	0CT1	11517311	BRISTOL-MYERS SQUIBB COMPANY	2275050011	999903	0				revision
09009	CT40	12291211	BOB THOMAS FORD	2275050012	999904	0				revision
09009	CT40	12291211	BOB THOMAS FORD	2275050011	999903	0				revision
09009	CT21	12290011	C N FLAGG	2275050012	999904	0	0			revision
09009	CT34	12290711	USSC/NORTH HAVEN	2275050011	999903	0				revision
09009	CT34	12290711	USSC/NORTH HAVEN	2275050012	999904	2				revision
09011	14CT	11003211	MPTN HELIPORT	2275050011	999903	0				revision
09011	CT07	11314911	SKIS LANDING AREA	2275050011	999903	6				revision
09011	14CT	11003211	MPTN HELIPORT	2275050012	999904	50				revision
09011	5CT7	11847311	MILE CREEK	2275050011	999903	60				revision
09011	CT48	11316411	WYCHWOOD FIELD	2275050011	999903	0				revision
09011	CT43	12304811	SPRUCE	2275050011	999903	35				revision
09011	CT80	12307011	STONINGTON AIRPARK	2275050011	999903	0				revision
09011	CT36	12290911	GAGER FIELD	2275050011	999903	0	0			revision

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09011	CT93	12308211	BACKUS HOSPITAL	2275050011	999903	0				revision
09011	CT16	12289711	FETSKE	2275050011	999903	3				revision
09011	CT93	12308211	BACKUS HOSPITAL	2275050012	999904	503				revision
09011	CT78	11317111	LORD CREEK	2275050011	999903	0				revision
09011	CT32	11315911	GALLUP FARM	2275050011	999903	21				revision
09013	02CT	11551811	STRANGERS POINT	2275050012	999904	0				revision
09013	02CT	11551811	STRANGERS POINT	2275050011	999903	0				revision
09013	CT29	12290511	VALLEY FARMS	2275050011	999903	30				revision
09013	CT15	11315411	WYSOCKI FIELD	2275050011	999903	11				revision
09013	CT09	11315011	HECKLER FIELD	2275050011	999903	124				revision
09013	CT53	12305611	MOUNTAIN VIEW	2275050011	999903	0	0			revision
09013	CT53	12305611	MOUNTAIN VIEW	2275050012	999904	0	0			revision
09015	CT74	12306711	WESTFORD AIRSTRIP	2275050011	999903	3				revision
09015	C44	11305211	TOUTANT	2275050012	999904	5				revision
09015	C44	11305211	TOUTANT	2275050011	999903	0				revision
09015	CT13	11315211	YANKEE AIRSTRIP	2275050011	999903	0				revision
09015	64CT	11580211	WOODSTOCK	2275050011	999903	750				revision
09015	0CT2	11517411	WINDHAM HOSPITAL	2275050012	999904	62				revision
09015	0CT2	11517411	WINDHAM HOSPITAL	2275050011	999903	0				revision
09015	5CT6	11847211	BUELL FARM	2275050011	999903	120				revision
09015	CT69	11316811	NASIN	2275050012	999904	0	0			revision
09015	CT69	11316811	NASIN	2275050011	999903	0	0			revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275050012	1542	99		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275050012	2030	126		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275050012	2051	102		11.43	22.02	addition

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13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275050011	2095	143		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275060012	2108	154		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1112	1213		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275060012	1539	99		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275050012	1453	263		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	3038	382		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1114	1213		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1102	364		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275060012	1530	182		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275060011	1512	215		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275050012	1458	154		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275060011	2337	105		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275060012	2099	125		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275060012	2088	261		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275060012	1604	275		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275050012	2357	112		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	118	293		11.43	22.02	addition

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13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275060012	2354	126		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1016	472		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2821	57		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2817	57		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2804	268		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275050012	1551	392		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	791	242		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2798	444		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	271	13952		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275060012	2184	2395		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1698	3411		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1408	55950		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1415	12527		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275060012	2375	151		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275050012	1428	97		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275050012	1588	178		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	873	3190		11.43	22.02	addition

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13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2760	242		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2389	1094		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2303	242		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1395	35694		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2282	5859		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2281	5655		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	404	1364		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	398	109		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	351	1985		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	296	6337		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2860	151		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	976	3329		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2407	796		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2260	226		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1875	123		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	844	922		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2794	331		11.43	22.02	revision

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13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	193	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2259	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2286	28049		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2316	2371		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2332	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2333	21142		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	3111	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2411	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275001000	1957	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2823	3329		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2859	151		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	288	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2887	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	291	5144		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	3072	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2401	4754		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1285	0		11.43	22.02	revision

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FIP Code	Facility SiteID	EIS Facility SiteID	Airport	SCC	AETC	Revised LTO	Revised TGO	Revised Taxi_In	Revised Taxi_Out	Revision Comment
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1370	39541		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	306	1193		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1670	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1655	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1407	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1396	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1901	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1341	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1853	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1273	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1225	626		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1216	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1148	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1077	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275001000	999905	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2330	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	135	293		11.43	22.02	revision

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FIP Code	Facility SiteID	EIS Facility SiteID	Airport	SCC	AETC	Revised LTO	Revised TGO	Revised Taxi_In	Revised Taxi_Out	Revision Comment
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275060012	1553	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275050012	1579	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	334	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275050012	1850	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2290	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275060011	999901	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275060012	1435	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275050011	999903	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275060012	1519	529		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275050012	1783	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275060012	1570	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275060012	2182	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275060012	999902	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	2777	237		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1296	158		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1361	937		11.43	22.02	addition
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	1367	39541		11.43	22.02	addition

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FIP Code	Facility SiteID	EIS Facility SiteID	Airport	SCC	AETC	Revised LTO	Revised TGO	Revised Taxi_In	Revised Taxi_Out	Revision Comment
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275060012	1479	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	596	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	363	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	418	109		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	450	285		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275050012	999904	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	561	53228.5		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	879	3329		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	620	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	633	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	635	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	659	17323		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	779	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	812	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	476	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	826	0		11.43	22.02	revision
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	861	47662		11.43	22.02	revision

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FIP Code	Facility SiteID	EIS Facility SiteID	Airport	SCC	AETC	Revised LTO	Revised TGO	Revised Taxi_In	Revised Taxi_Out	Revision Comment
13063	ATL	9748811	Hartsfield-Jackson Atlanta International Airport	2275020000	875	0		11.43	22.02	revision
24001	1W3	11493011	MEXICO FARMS	2275050012	999904	351.819				revision
24001	1W3	11493011	MEXICO FARMS	2275050011	999903	909.181				revision
24001	2MD5	11092711	MEMORIAL HOSPITAL OF CUMBERLAND	2275050011	999903	0				revision
24003	BWI	95711111	Baltimore-Washington International	2275001000	999905	4216				revision
24003	MD43	12531911	MOUNTAIN ROAD	2275050011	999903	0				revision
24003	FME	95710111	Tipton	2275050012	999904	6544.339				revision
24003	FME	95710111	Tipton	2275050011	999903	16912.07				revision
24003	FME	95710111	Tipton	2275001000	999905	13				revision
24003	BWI	95711111	Baltimore-Washington International	2275020000	659	198346				revision
24003	BWI	95711111	Baltimore-Washington International	2275050011	999903	15328				revision
24003	BWI	95711111	Baltimore-Washington International	2275060012	999902	16042				revision
24003	MD22	12530711	DEALE	2275050011	999903	50				revision
24003	BWI	95711111	Baltimore-Washington International	2275060011	999901	8000				revision
24005	MD48	12532311	ALBRECHT AIRSTRIP	2275050011	999903	180				revision
24005	MTN	95720111	Martin State	2275001000	999905	2284				revision
24005	MTN	95720111	Martin State	2275020000	2330	774.5				revision
24005	MTN	95720111	Martin State	2275050011	999903	24405.23				revision
24005	MTN	95720111	Martin State	2275050012	1857	0				revision
24005	MTN	95720111	Martin State	2275050012	999904	0				revision
24005	MTN	95720111	Martin State	2275060011	999901	0				revision
24005	MTN	95720111	Martin State	2275060012	2052	0				revision
24005	MTN	95720111	Martin State	2275060012	999902	13141				revision

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24005	MTN	9572011	Martin State	2275060012	1570	0				revision
24009	MD50	12532511	CHESAPEAKE RANCH AIRSTRIP	2275050011	999903	1250				revision
24011	00MD	10935011	SLATER FLD	2275050011	999903	0				revision
24011	7MD1	11257511	MAGENNIS FARM	2275050011	999903	30				revision
24013	07MD	11505811	BAUGHER'S ORCHARD	2275050011	999903	25				revision
24013	MD42	11359411	KEYMAR AIRPARK	2275050011	999903	68	20			revision
24017	MD55	11359611	HOLLY SPRINGS FARM	2275050011	999903	5				revision
24017	8MD6	11654311	BURGESS FIELD	2275050011	999903	0				revision
24019	3MD8	11132711	POKETY	2275050011	999903	0				revision
24019	1MD1	11034211	BIG OAK FARM	2275050011	999903	40				revision
24019	MD33	12531411	DORCHESTER GENERAL HOSPITAL	2275050012	999904	30				revision
24019	MD18	11358411	HORN POINT	2275050011	999903	10				revision
24021	MD75	11360011	STOLCREST	2275050011	999903	20				revision
24023	2G4	9569311	Garrett County	2275060011	999901	100				revision
24023	2G4	9569311	Garrett County	2275001000	999905	250				revision
24023	2G4	9569311	Garrett County	2275050012	999904	200				revision
24023	2G4	9569311	Garrett County	2275060012	999902	200				revision
24023	2G4	9569311	Garrett County	2275050011	999903	13800				revision
24025	APG	12369011	PHILLIPS AAF	2275001000	999905	7676				revision
24025	EDG	12355911	WEIDE AHP (ABERDEEN PROVING GROUND)	2275050012	999904	0				revision
24025	EDG	12355911	WEIDE AHP (ABERDEEN PROVING GROUND)	2275050011	999903	0				revision
24025	EDG	12355911	WEIDE AHP (ABERDEEN PROVING GROUND)	2275001000	999905	1674				revision
24027	2MD2	12051011	AEROSPACE TECH CENTER	2275050011	999903	0				revision
24027	2MD2	12051011	AEROSPACE TECH CENTER	2275050012	999904	0				revision

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FIP Code	Facility SiteID	EIS Facility SiteID	Airport	SCC	AETC	Revised LTO	Revised TGO	Revised Taxi_In	Revised Taxi_Out	Revision Comment
24027	MD25	11358911	HOWARD COUNTY GENERAL HOSPITAL	2275050011	999903	0				revision
24027	MD25	11358911	HOWARD COUNTY GENERAL HOSPITAL	2275050012	999904	0	144			revision
24031	W50	9567511	Davis	2275050012	999904	946				revision
24031	W50	9567511	Davis	2275050011	999903	2000				revision
24033	ADW	9567311	Andrews AFB	2275020000	2823	0				revision
24033	ADW	9567311	Andrews AFB	2275020000	2316	0				revision
24033	ADW	9567311	Andrews AFB	2275020000	2286	0				revision
24033	ADW	9567311	Andrews AFB	2275020000	1273	0				revision
24033	ADW	9567311	Andrews AFB	2275020000	1077	0				revision
24033	ADW	9567311	Andrews AFB	2275001000	1957	0				revision
24033	ADW	9567311	Andrews AFB	2275020000	633	0				revision
24033	ADW	9567311	Andrews AFB	2275001000	999905	11459				revision
24033	ADW	9567311	Andrews AFB	2275020000	288	0				revision
24033	ADW	9567311	Andrews AFB	2275060012	999902	0				revision
24033	ADW	9567311	Andrews AFB	2275060011	999901	0				revision
24033	ADW	9567311	Andrews AFB	2275050012	999904	0				revision
24033	ADW	9567311	Andrews AFB	2275050012	1878	0				revision
24033	ADW	9567311	Andrews AFB	2275050011	999903	0				revision
24033	ADW	9567311	Andrews AFB	2275020000	999906	0				revision
24033	ADW	9567311	Andrews AFB	2275020000	861	0				revision
24033	ADW	9567311	Andrews AFB	2275020000	826	0				revision
24033	ADW	9567311	Andrews AFB	2275020000	363	0				revision
24035	MD23	11358711	KENNERSLEY	2275050011	999903	0				revision
24035	0MD1	10977311	TAYLOR FIELD	2275050011	999903	1				revision
24035	W29	9566211	Bay Bridge	2275060012	999902	75				revision

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FIP Code	Facility SiteID	EIS Facility SiteID	Airport	SCC	AETC	Revised LTO	Revised TGO	Revised Taxi_In	Revised Taxi_Out	Revision Comment
24035	MD21	11358611	ASHLAND LANDING FARM	2275050011	999903	12				revision
24035	W29	9566211	Bay Bridge	2275001000	999905	25				revision
24035	W29	9566211	Bay Bridge	2275050011	999903	18375				revision
24035	W29	9566211	Bay Bridge	2275060011	999901	25				revision
24035	MD70	12546111	FLYING ACRES	2275050011	999903	12				revision
24035	W29	9566211	Bay Bridge	2275050012	999904	15000				revision
24035	OMD7	10977711	THE ASPEN INSTITUTE	2275050011	999903	0				revision
24035	OMD7	10977711	THE ASPEN INSTITUTE	2275050012	999904	0				revision
24037	NHK	12304311	PATUXENT RIVER NAS/TRAPNELL FIELD/	2275001000	999905	120360.6				revision
24037	8MD7	11654411	DEERFIELD	2275050011	999903	20				revision
24037	NHK	12304311	PATUXENT RIVER NAS/TRAPNELL FIELD/	2275020000	999906	1294.2				revision
24037	NHK	12304311	PATUXENT RIVER NAS/TRAPNELL FIELD/	2275050011	999903	7765.2				revision
24039	2MD0	12050811	ANDERSON FARM	2275050011	999903	12				revision
24043	HGR	9565811	Hagerstown Regional-Ric	2275001000	999905	5805				revision
24043	HGR	9565811	Hagerstown Regional-Ric	2275050012	999904	5961.114				revision
24043	HGR	9565811	Hagerstown Regional-Ric	2275020000	1273	148.204				revision
24043	HGR	9565811	Hagerstown Regional-Ric	2275020000	1285	1.925				revision
24043	HGR	9565811	Hagerstown Regional-Ric	2275020000	2286	1.925				revision
24043	HGR	9565811	Hagerstown Regional-Ric	2275020000	291	21.172				revision
24043	HGR	9565811	Hagerstown Regional-Ric	2275020000	620	5.774				revision
24043	HGR	9565811	Hagerstown Regional-Ric	2275050011	999903	15404.89				revision
24043	HGR	9565811	Hagerstown Regional-Ric	2275060011	2063	1822.152				revision
24043	HGR	9565811	Hagerstown Regional-Ric	2275060012	999902	2961.303				revision
24043	HGR	9565811	Hagerstown Regional-Ric	2275060012	2052	1.546				revision

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24043	7MD4	11697211	ALLEGHENY POWER-HAGERSTOWN CORP CTR	2275050011	999903	0				revision
24043	7MD4	11697211	ALLEGHENY POWER-HAGERSTOWN CORP CTR	2275050012	999904	0				revision
24045	SBY	9564711	Salisbury-Ocean City Wi	2275001000	999905	150				revision
24045	SBY	9564711	Salisbury-Ocean City Wi	2275020000	999906	75				revision
24045	SBY	9564711	Salisbury-Ocean City Wi	2275050011	999903	10000				revision
24045	SBY	9564711	Salisbury-Ocean City Wi	2275060012	1519	742.338				revision
24045	SBY	9564711	Salisbury-Ocean City Wi	2275050012	999904	4800				revision
24045	SBY	9564711	Salisbury-Ocean City Wi	2275060011	999901	769.099				revision
24045	SBY	9564711	Salisbury-Ocean City Wi	2275060012	1463	1426.999				revision
24045	SBY	9564711	Salisbury-Ocean City Wi	2275060012	1471	761.564				revision
24510	8MD2	11654011	MONTEBELLO FILTRATION PLANT	2275050012	999904	0				revision
24510	8MD2	11654011	MONTEBELLO FILTRATION PLANT	2275050011	999903	3				revision
42025	3PA2	11992011	NEEB	2275050011	999903	0				revision
42041	PA4	16140011	Carlisle Airport	2275060012	2052	0				revision
42075	4PA0	11920011	MILLARD	2275050012	999904	0				revision
42075	4PA0	11920011	MILLARD	2275050011	999903	0				revision
42077	5NY9	11740411	ALEXANDER'S-ROOSEVELT	2275050011	999903	0				revision
42077	5NY9	11740411	ALEXANDER'S-ROOSEVELT	2275050012	999904	0				revision
42091	33PN	11880911	SKEPTON	2275050012	999904	0				revision
42091	33PN	11880911	SKEPTON	2275050011	999903	0				revision
42091	3PN8	11993111	WYETH PHARMACEUTICALS	2275050011	999903	0				revision
42091	3PN8	11993111	WYETH PHARMACEUTICALS	2275050012	999904	0				revision
42117	99PA	11752111	NIELSEN	2275050011	999903	0				revision
42117	61PA	11217811	HI LINE LODGE	2275050011	999903	0				revision

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42129	25PA	11913211	JEANNETTE HOSPITAL	2275050012	999904	0				revision
42129	25PA	11913211	JEANNETTE HOSPITAL	2275050011	999903	0				revision
42133	PA5	16139911	Brandywine	2275060012	1519	0				revision
42133	90PN	11659311	BANEY'S	2275050011	999903	0				revision
42133	90PN	11659311	BANEY'S	2275050012	999904	0				revision
49001	U52	9053911	Beaver Muni	2275050011	999903	931				revision
49001	MLF	9054011	Milford Muni	2275060011	999901	5				revision
49001	MLF	9054011	Milford Muni	2275060012	999902	14				revision
49001	MLF	9054011	Milford Muni	2275050012	999904	0				revision
49001	MLF	9054011	Milford Muni	2275050011	999903	848				revision
49001	U52	9053911	Beaver Muni	2275060012	999902	17				revision
49001	U52	9053911	Beaver Muni	2275060011	999901	6				revision
49001	U52	9053911	Beaver Muni	2275050012	999904	0				revision
49003	BMC	9047511	Brigham City	2275060012	999902	116				revision
49003	BMC	9047511	Brigham City	2275060011	999901	39				revision
49003	BMC	9047511	Brigham City	2275050012	999904	0				revision
49003	BMC	9047511	Brigham City	2275050011	999903	9,612				revision
49005	LGU	9047111	Logan-Cache	2275020000	999906	1				revision
49005	LGU	9047111	Logan-Cache	2275050011	999903	33,810				revision
49005	LGU	9047111	Logan-Cache	2275050012	999904	1,300				revision
49005	LGU	9047111	Logan-Cache	2275060011	999901	142				revision
49005	LGU	9047111	Logan-Cache	2275060012	2082	0				revision
49005	LGU	9047111	Logan-Cache	2275060012	999902	426				revision
49005	LGU	9047111	Logan-Cache	2275020000	291	1				revision
49005	LGU	9047111	Logan-Cache	2275001000	999905	24				revision
49005	LGU	9047111	Logan-Cache	2275020000	288	0				revision

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49007	PUC	9044511	Carbon County	2275060012	999902	409				revision
49007	PUC	9044511	Carbon County	2275060011	999901	136				revision
49007	PUC	9044511	Carbon County	2275050012	999904	0				revision
49007	PUC	9044511	Carbon County	2275050011	999903	1,596				revision
49009	33U	11117711	DUTCH JOHN	2275050012	999904	356				revision
49009	40U	9044411	Manila	2275050012	999904	331				revision
49009	40U	9044411	Manila	2275050011	999903	110				revision
49009	33U	11117711	DUTCH JOHN	2275050011	999903	119				revision
49009	40U	9044411	Manila	2275060012	999902	7				revision
49009	33U	11117711	DUTCH JOHN	2275060012	999902	10				revision
49011	BTF	11304811	SKYPARK	2275060011	999901	17				revision
49011	HIF	9090211	Hill AFB Airport	2275001000	999905	10,865				addition
49011	HIF	9090211	Hill AFB Airport	2275050011	999903	0				revision
49011	BTF	11304811	SKYPARK	2275050011	999903	18,285				revision
49011	BTF	11304811	SKYPARK	2275050012	999904	0				revision
49011	BTF	11304811	SKYPARK	2275060012	999902	51				revision
49013	U69	9090011	Duchesne Muni	2275060011	999901	5				revision
49013	U69	9090011	Duchesne Muni	2275060012	999902	14				revision
49013	74V	9090111	Roosevelt Muni	2275050011	999903	2,082				revision
49013	74V	9090111	Roosevelt Muni	2275050012	999904	0				revision
49013	74V	9090111	Roosevelt Muni	2275060012	999902	20				revision
49013	U69	9090011	Duchesne Muni	2275050012	999904	50				revision
49013	U69	9090011	Duchesne Muni	2275050011	999903	695				revision
49015	69V	11228811	HUNTINGTON MUNI	2275050011	999903	1,828				revision
49015	69V	11228811	HUNTINGTON MUNI	2275060012	999902	3				revision
49015	69V	11228811	HUNTINGTON MUNI	2275050012	999904	0				revision

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49015	U34	9089911	Green River Muni	2275060012	999902	205				revision
49015	U34	9089911	Green River Muni	2275060011	999901	68				revision
49015	U34	9089911	Green River Muni	2275050011	999903	693				revision
49015	U34	9089911	Green River Muni	2275050012	999904	0				revision
49017	U07	11442011	BULLFROG BASIN	2275050012	999904	916				revision
49017	U07	11442011	BULLFROG BASIN	2275060012	999902	10				revision
49017	1L7	9089811	Escalante Muni	2275050011	999903	507				revision
49017	1L7	9089811	Escalante Muni	2275050012	999904	0				revision
49017	1L7	9089811	Escalante Muni	2275060012	999902	10				revision
49017	U55	9089611	Panguitch Muni	2275050011	999903	612				revision
49017	U55	9089611	Panguitch Muni	2275050012	999904	0				revision
49017	U55	9089611	Panguitch Muni	2275060012	999902	14				revision
49017	U55	9089611	Panguitch Muni	2275060011	999901	5				revision
49017	U07	11442011	BULLFROG BASIN	2275050011	999903	305				revision
49017	BCE	9089711	Bryce Canyon	2275050011	999903	1,012				revision
49017	BCE	9089711	Bryce Canyon	2275050012	999904	0				revision
49017	BCE	9089711	Bryce Canyon	2275060012	999902	48				revision
49017	BCE	9089711	Bryce Canyon	2275060011	999901	16				revision
49019	CNY	9089511	Canyonlands Field	2275060012	999902	1,438				revision
49019	CNY	9089511	Canyonlands Field	2275060012	2085	0				revision
49019	CNY	9089511	Canyonlands Field	2275060012	1640	0				revision
49019	CNY	9089511	Canyonlands Field	2275060011	999901	479				revision
49019	CNY	9089511	Canyonlands Field	2275050011	999903	2,474				revision
49019	CNY	9089511	Canyonlands Field	2275001000	999905	99				revision
49019	CNY	9089511	Canyonlands Field	2275020000	999906	0				revision
49019	CNY	9089511	Canyonlands Field	2275020000	2085	4				addition

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49019	CNY	9089511	Canyonlands Field	2275020000	1640	155				addition
49019	CNY	9089511	Canyonlands Field	2275050012	999904	0				revision
49019	CNY	9089511	Canyonlands Field	2275020000	1461	1				addition
49019	CNY	9089511	Canyonlands Field	2275050012	1542	0				revision
49021	CDC	9093611	Cedar City Regional	2275020000	291	0				revision
49021	1L9	9093811	Parowan	2275050011	999903	2,111				revision
49021	1L9	9093811	Parowan	2275060012	999902	10				revision
49021	1L9	9093811	Parowan	2275050012	999904	0				revision
49021	CDC	9093611	Cedar City Regional	2275020000	1273	0				revision
49021	CDC	9093611	Cedar City Regional	2275020000	861	1				revision
49021	CDC	9093611	Cedar City Regional	2275001000	999905	123				revision
49021	CDC	9093611	Cedar City Regional	2275020000	1407	182				revision
49021	CDC	9093611	Cedar City Regional	2275020000	2286	0				revision
49021	CDC	9093611	Cedar City Regional	2275020000	2330	0				revision
49021	CDC	9093611	Cedar City Regional	2275020000	633	0				revision
49021	CDC	9093611	Cedar City Regional	2275020000	1519	167				addition
49021	CDC	9093611	Cedar City Regional	2275060012	999902	5,641				revision
49021	CDC	9093611	Cedar City Regional	2275060012	1640	0				revision
49021	CDC	9093611	Cedar City Regional	2275060012	1519	0				revision
49021	CDC	9093611	Cedar City Regional	2275050012	999904	823				revision
49021	CDC	9093611	Cedar City Regional	2275050011	999903	14,822				revision
49021	CDC	9093611	Cedar City Regional	2275020000	1415	1				addition
49021	CDC	9093611	Cedar City Regional	2275020000	1640	42				addition
49021	CDC	9093611	Cedar City Regional	2275060011	999901	1,880				revision
49023	U14	9093411	Nephi Muni	2275060012	999902	0				revision
49023	U14	9093411	Nephi Muni	2275050011	999903	1,667				revision

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49023	U14	9093411	Nephi Muni	2275060011	999901	0				revision
49023	U14	9093411	Nephi Muni	2275050012	999904	0				revision
49025	KNB	9093311	Kanab Muni	2275060012	999902	34				revision
49025	KNB	9093311	Kanab Muni	2275060012	1602	0				revision
49025	KNB	9093311	Kanab Muni	2275050012	999904	0				revision
49025	KNB	9093311	Kanab Muni	2275020000	1604	10				addition
49025	KNB	9093311	Kanab Muni	2275050011	999903	1,502				revision
49025	KNB	9093311	Kanab Muni	2275060012	1519	2				revision
49027	DTA	9093211	Delta Muni	2275060012	999902	34				revision
49027	DTA	9093211	Delta Muni	2275060011	999901	11				revision
49027	DTA	9093211	Delta Muni	2275050012	999904	0				revision
49027	FOM	12442711	FILLMORE MUNI	2275050011	999903	811				revision
49027	FOM	12442711	FILLMORE MUNI	2275050012	999904	0				revision
49027	FOM	12442711	FILLMORE MUNI	2275060011	999901	4				revision
49027	FOM	12442711	FILLMORE MUNI	2275060012	999902	11				revision
49027	DTA	9093211	Delta Muni	2275050011	999903	1,127				revision
49029	42U	11147011	MORGAN COUNTY	2275060012	999902	7				revision
49029	42U	11147011	MORGAN COUNTY	2275050012	999904	0				revision
49029	42U	11147011	MORGAN COUNTY	2275050011	999903	2,123				revision
49031	U13	11442111	JUNCTION	2275050011	999903	111				revision
49031	U13	11442111	JUNCTION	2275050012	999904	334				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	620	1,851				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	12	136				addition
49035	SLC	9076611	Salt Lake City Intl	2275020000	861	4,861				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	418	2				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	633	190				revision

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49035	SLC	9076611	Salt Lake City Intl	2275020000	659	4,386				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	779	0				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	826	1				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	875	88				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	879	3				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	363	1				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	1519	680				addition
49035	SLC	9076611	Salt Lake City Intl	2275020000	288	4,916				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	1640	3,224				addition
49035	SLC	9076611	Salt Lake City Intl	2275020000	1613	382				addition
49035	SLC	9076611	Salt Lake City Intl	2275020000	1914	4				addition
49035	SLC	9076611	Salt Lake City Intl	2275020000	1553	2				addition
49035	SLC	9076611	Salt Lake City Intl	2275020000	1367	1,227				addition
49035	SLC	9076611	Salt Lake City Intl	2275050011	999903	24,799				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	2082	308				addition
49035	SLC	9076611	Salt Lake City Intl	2275020000	2286	6,710				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	1216	10				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	1225	11				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	1273	2				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	1285	1				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	1341	375				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	135	632				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	1396	16				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	1407	15,431				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	1670	440				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	3111	2,618				revision

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FIP Code	Facility SiteID	EIS Facility SiteID	Airport	SCC	AETC	Revised LTO	Revised TGO	Revised Taxi_In	Revised Taxi_Out	Revision Comment
49035	SLC	9076611	Salt Lake City Intl	2275020000	334	566				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	2290	1,127				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	2316	28				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	2330	9,160				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	2333	7,296				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	2401	705				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	2411	0				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	2823	1,110				revision
49035	SLC	9076611	Salt Lake City Intl	2275060011	999901	10,650				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	291	9,870				revision
49035	SLC	9076611	Salt Lake City Intl	2275050012	1849	0				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	1853	0				revision
49035	SLC	9076611	Salt Lake City Intl	2275050012	1914	0				revision
49035	SLC	9076611	Salt Lake City Intl	2275020000	1077	4				revision
49035	SLC	9076611	Salt Lake City Intl	2275060012	999902	31,950				revision
49035	SLC	9076611	Salt Lake City Intl	2275050012	1857	0				revision
49035	SLC	9076611	Salt Lake City Intl	2275050012	999904	3,972				revision
49035	SLC	9076611	Salt Lake City Intl	2275060012	12	0				revision
49035	SLC	9076611	Salt Lake City Intl	2275060012	1479	0				revision
49035	SLC	9076611	Salt Lake City Intl	2275060012	1519	0				revision
49035	SLC	9076611	Salt Lake City Intl	2275060012	1553	0				revision
49035	SLC	9076611	Salt Lake City Intl	2275060012	1589	0				revision
49035	SLC	9076611	Salt Lake City Intl	2275060012	1640	0				revision
49035	SLC	9076611	Salt Lake City Intl	2275060012	2108	0				revision
49035	SLC	9076611	Salt Lake City Intl	2275050012	1850	0				revision
49035	U42	9076511	Salt Lake City Muni 2	2275001000	999905	3,586				revision

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FIP Code	Facility SiteID	EIS Facility SiteID	Airport	SCC	AETC	Revised LTO	Revised TGO	Revised Taxi_In	Revised Taxi_Out	Revision Comment
49035	U42	9076511	Salt Lake City Muni 2	2275050011	999903	33,021				revision
49035	U42	9076511	Salt Lake City Muni 2	2275050012	999904	0				revision
49035	U42	9076511	Salt Lake City Muni 2	2275060011	999901	74				revision
49035	U42	9076511	Salt Lake City Muni 2	2275060012	999902	222				revision
49035	SLC	9076611	Salt Lake City Intl	2275060012	2082	0				revision
49037	UXR	9076111	Monument Valley Airport	2275050011	999903	0				revision
49037	U64	16145511	MONTICELLO	2275060012	999902	17				revision
49037	U64	16145511	MONTICELLO	2275060011	999901	6				revision
49037	U64	16145511	MONTICELLO	2275050012	999904	0				revision
49037	U64	16145511	MONTICELLO	2275050011	999903	1,065				revision
49037	UXR	9076111	Monument Valley Airport	2275050012	999904	0				revision
49037	BDG	9076411	Blanding Muni	2275050012	999904	0				revision
49037	UXR	9076111	Monument Valley Airport	2275060011	999901	0				revision
49037	UXR	9076111	Monument Valley Airport	2275060012	1602	24				revision
49037	UXR	9076111	Monument Valley Airport	2275060012	1519	54				revision
49037	SLC	9076611	Salt Lake City Intl	2275020000	1857	2				addition
49037	BDG	9076411	Blanding Muni	2275050011	999903	1,209				revision
49037	BDG	9076411	Blanding Muni	2275060012	999902	34				revision
49037	U96	9076211	Cal Black Memorial	2275060012	999902	34				revision
49037	66V	11224411	BLUFF	2275050011	999903	509				revision
49037	66V	11224411	BLUFF	2275050012	999904	0				revision
49037	U96	9076211	Cal Black Memorial	2275050011	999903	945				revision
49037	U96	9076211	Cal Black Memorial	2275050012	999904	0				revision
49038	SLC	9076611	Salt Lake City Intl	2275020000	1589	1				addition
49039	41U	9076011	Manti-Ephraim	2275050011	999903	417				revision
49039	SLC	9076611	Salt Lake City Intl	2275020000	2108	5				addition

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49039	43U	11854811	MOUNT PLEASANT	2275050011	999903	617				revision
49039	43U	11854811	MOUNT PLEASANT	2275050012	999904	0				revision
49039	41U	9076011	Manti-Ephraim	2275050012	999904	52				revision
49041	44U	11150811	SALINA-GUNNISON	2275060012	999902	1				revision
49041	44U	11150811	SALINA-GUNNISON	2275050012	999904	0				revision
49041	44U	11150811	SALINA-GUNNISON	2275050011	999903	537				revision
49041	RIF	9075911	Richfield Muni	2275060012	999902	57				revision
49041	RIF	9075911	Richfield Muni	2275050012	999904	0				revision
49041	RIF	9075911	Richfield Muni	2275050011	999903	4,814				revision
49042	SLC	9076611	Salt Lake City Intl	2275020000	1850	2				addition
49043	SLC	9076611	Salt Lake City Intl	2275020000	1849	3				addition
49044	SLC	9076611	Salt Lake City Intl	2275020000	363	1				addition
49045	ENV	9073511	Wendover	2275001000	999905	418				revision
49045	ENV	9073511	Wendover	2275020000	1273	0				revision
49045	ENV	9073511	Wendover	2275050011	999903	830				revision
49045	ENV	9073511	Wendover	2275050012	1458	0				revision
49045	ENV	9073511	Wendover	2275050012	999904	1,037				revision
49045	TVY	9073411	Bolinder Field-Tooele V	2275050011	999903	34,343				revision
49045	TVY	9073411	Bolinder Field-Tooele V	2275050012	999904	0				revision
49045	TVY	9073411	Bolinder Field-Tooele V	2275060011	999901	120				revision
49045	TVY	9073411	Bolinder Field-Tooele V	2275060012	999902	361				revision
49045	SLC	9076611	Salt Lake City Intl	2275020000	1875	1				addition
49045	DPG	11321211	MICHAEL AAF (DUGWAY PROVING GROUND)	2275001000	999905	11,000				addition
49045	DPG	11321211	MICHAEL AAF (DUGWAY PROVING GROUND)	2275050011	999903	0				revision
49047	VEL	9073211	Vernal	2275020000	2085	6				addition

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49047	VEL	9073211	Vernal	2275020000	1640	154				addition
49047	VEL	9073211	Vernal	2275050011	999903	3,705				revision
49047	VEL	9073211	Vernal	2275060012	999902	498				revision
49047	VEL	9073211	Vernal	2275060012	2085	0				revision
49047	VEL	9073211	Vernal	2275050012	999904	0				revision
49047	VEL	9073211	Vernal	2275060011	999901	166				revision
49047	VEL	9073211	Vernal	2275060012	1640	0				revision
49049	U77	9070511	Spanish Fork-Springville	2275050012	999904	281				revision
49049	PVU	9070611	Provo Muni	2275060011	999901	35				revision
49049	U77	9070511	Spanish Fork-Springville	2275001000	999905	49				revision
49049	PVU	9070611	Provo Muni	2275060012	999902	106				revision
49049	PVU	9070611	Provo Muni	2275060012	2108	0				revision
49049	PVU	9070611	Provo Muni	2275060012	1479	0				revision
49049	U77	9070511	Spanish Fork-Springville	2275050011	999903	13,053				revision
49049	PVU	9070611	Provo Muni	2275050012	999904	3,976				revision
49049	PVU	9070611	Provo Muni	2275050012	1878	0				revision
49049	PVU	9070611	Provo Muni	2275050011	999903	78,717				revision
49049	PVU	9070611	Provo Muni	2275020000	861	1				revision
49049	PVU	9070611	Provo Muni	2275020000	291	0				revision
49049	PVU	9070611	Provo Muni	2275020000	3111	0				revision
49049	PVU	9070611	Provo Muni	2275020000	2286	0				revision
49049	PVU	9070611	Provo Muni	2275020000	288	163				revision
49049	PVU	9070611	Provo Muni	2275020000	1853	0				revision
49049	PVU	9070611	Provo Muni	2275001000	999905	98				revision
49049	PVU	9070611	Provo Muni	2275020000	1273	0				revision
49050	PVU	9070611	Provo Muni	2275020000	1613	1				addition

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49051	36U	9067711	Heber City Muni - Russ	2275050012	1850	1				revision
49051	36U	9067711	Heber City Muni - Russ	2275060012	999902	529				revision
49051	36U	9067711	Heber City Muni - Russ	2275050012	999904	873				revision
49051	36U	9067711	Heber City Muni - Russ	2275050012	1849	0				revision
49051	36U	9067711	Heber City Muni - Russ	2275050011	999903	7,978				revision
49051	PVU	9070611	Provo Muni	2275020000	1875	2				addition
49051	36U	9067711	Heber City Muni - Russ	2275060011	999901	176				revision
49052	PVU	9070611	Provo Muni	2275020000	1367	92				addition
49053	UT73	11447111	DIAMOND 'G' RANCH	2275050012	999904					revision
49053	SGU	9067211	St George Muni	2275020000	659	0				revision
49053	SGU	9067211	St George Muni	2275020000	2330	4				revision
49053	SGU	9067211	St George Muni	2275020000	1407	646				revision
49053	SGU	9067211	St George Muni	2275020000	1638	84				addition
49053	SGU	9067211	St George Muni	2275001000	1957	0				revision
49053	SGU	9067211	St George Muni	2275020000	1367	1				addition
49053	SGU	9067211	St George Muni	2275060012	1640	0				revision
49053	SGU	9067211	St George Muni	2275020000	1615	2				addition
49053	SGU	9067211	St George Muni	2275060012	999902	539				revision
49053	SGU	9067211	St George Muni	2275020000	2333	1				revision
49053	SGU	9067211	St George Muni	2275060012	1616	0				revision
49053	SGU	9067211	St George Muni	2275060012	1519	0				revision
49053	SGU	9067211	St George Muni	2275060011	999901	180				revision
49053	SGU	9067211	St George Muni	2275050012	999904	598				revision
49053	SGU	9067211	St George Muni	2275050011	999903	24,199				revision
49053	SGU	9067211	St George Muni	2275020000	999906	0				revision
49053	SGU	9067211	St George Muni	2275020000	1519	235				addition

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49053	PVU	9070611	Provo Muni	2275020000	3111	1				addition
49053	1L8	11031711	GENERAL DICK STOUT FIELD	2275050011	999903	4,219				revision
49053	1L8	11031711	GENERAL DICK STOUT FIELD	2275060012	999902	3				revision
49053	1L8	11031711	GENERAL DICK STOUT FIELD	2275050012	999904	0				revision
49055	38U	9067111	Wayne Wonderland	2275060011	999901	5				revision
49055	38U	9067111	Wayne Wonderland	2275050012	999904	0				revision
49055	38U	9067111	Wayne Wonderland	2275050011	999903	875				revision
49055	38U	9067111	Wayne Wonderland	2275060012	999902	14				revision
49055	HVE	9067011	Hanksville	2275060012	999902	10				revision
49055	HVE	9067011	Hanksville	2275050012	999904	0				revision
49055	HVE	9067011	Hanksville	2275050011	999903	444				revision
49057	OGD	9064711	Ogden-Hinckley	2275060011	999901	461				revision
49057	OGD	9064711	Ogden-Hinckley	2275020000	288	48				revision
49057	OGD	9064711	Ogden-Hinckley	2275020000	291	0				revision
49057	OGD	9064711	Ogden-Hinckley	2275020000	1638	1				addition
49057	OGD	9064711	Ogden-Hinckley	2275020000	1875	2				addition
49057	OGD	9064711	Ogden-Hinckley	2275020000	1367	28				addition
49057	OGD	9064711	Ogden-Hinckley	2275050011	999903	41,450				revision
49057	OGD	9064711	Ogden-Hinckley	2275050012	999904	1,535				revision
49057	OGD	9064711	Ogden-Hinckley	2275060012	1640	0				revision
49057	OGD	9064711	Ogden-Hinckley	2275060012	999902	1,382				revision
49057	OGD	9064711	Ogden-Hinckley	2275020000	1285	0				revision
49057	OGD	9064711	Ogden-Hinckley	2275050012	1579	0				revision
49057	OGD	9064711	Ogden-Hinckley	2275020000	1853	0				revision
49057	OGD	9064711	Ogden-Hinckley	2275001000	999905	125				revision
49057	OGD	9064711	Ogden-Hinckley	2275020000	1273	2				revision

Appendix C – State LTO Data

FIP Code	Facility SiteID	EIS Facility SiteID	Airport	SCC	AETC	Revised LTO	Revised TGO	Revised Taxi_In	Revised Taxi_Out	Revision Comment
51033	APH	12369111	A P HILL AAF (FORT A P HILL)	2275050012	1892	3				addition
51033	APH	12369111	A P HILL AAF (FORT A P HILL)	2275001000	2207	68				addition
51033	APH	12369111	A P HILL AAF (FORT A P HILL)	2275001000	2212	1,620				addition
51033	APH	12369111	A P HILL AAF (FORT A P HILL)	2275001000	999905	0				addition
51033	APH	12369111	A P HILL AAF (FORT A P HILL)	2275001000	999905	0				addition
51033	APH	12369111	A P HILL AAF (FORT A P HILL)	2275001000	1960	40				addition
51033	APH	12369111	A P HILL AAF (FORT A P HILL)	2275050012	2212	3				addition
51033	APH	12369111	A P HILL AAF (FORT A P HILL)	2275001000	999905	0				addition
51033	APH	12369111	A P HILL AAF (FORT A P HILL)	2275001000	548	21				addition
51033	APH	12369111	A P HILL AAF (FORT A P HILL)	2275001000	999905	0				addition
51033	APH	12369111	A P HILL AAF (FORT A P HILL)	2275001000	1203	52				addition
51033	APH	12369111	A P HILL AAF (FORT A P HILL)	2275001000	1505	30				addition
51033	APH	12369111	A P HILL AAF (FORT A P HILL)	2275001000	1509	36				addition
51033	APH	12369111	A P HILL AAF (FORT A P HILL)	2275001000	1201	28				addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275001000	2212	409	5705			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275001000	2207	3	59			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275050012	1515	22	7			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275001000	2096	1	0			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275050012	543	3				addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275050012	999904	0	0			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275050012	2381	1				addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275001000	2210	440	5746			addition

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FIP Code	Facility SiteID	EIS Facility SiteID	Airport	SCC	AETC	Revised LTO	Revised TGO	Revised Taxi_In	Revised Taxi_Out	Revision Comment
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275001000	1311	0	2			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275001000	1960	52	3			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275001000	1550	10	0			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275001000	1203	50	649			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275001000	1201	328	17			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275001000	2126	43	2			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275001000	2055	3	0			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275001000	2250	7	7			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275001000	547	9	0			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275001000	999905	0	0			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275001000	548	15	13			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275001000	999905	0	0			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275050012	1516	14	2			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275050011	2462	0.5	1			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275050012	37	2				addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275050012	2484	1	2			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275050012	2096	7				addition

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FIP Code	Facility SiteID	EIS Facility SiteID	Airport	SCC	AETC	Revised LTO	Revised TGO	Revised Taxi_In	Revised Taxi_Out	Revision Comment
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275050012	999904	0	0			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275050012	1606	2	2			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275050012	1327	3				addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275050012	1454	1				addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275050012	999904	0	0			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275050012	2001	1				addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275050012	2059	5	5			addition
51179	NYG	11407811	QUANTICO MCAF /TURNER FIELD	2275050012	2065	1				addition
51550	NFE	12285211	FENTRESS NALF	2275050011	999903	10				revision
51550	NFE	12285211	FENTRESS NALF	2275001000	999905	3,121	32232			revision
51650	LFI	9077811	Langley AFB Airport	2275001000	1311	254				addition
51650	LFI	9077811	Langley AFB Airport	2275001000	2215	5,590				addition
51650	LFI	9077811	Langley AFB Airport	2275001000	2213	117				addition
51650	LFI	9077811	Langley AFB Airport	2275001000	1455	191				addition
51650	LFI	9077811	Langley AFB Airport	2275001000	1237	18				addition
51650	LFI	9077811	Langley AFB Airport	2275001000	1285	29				addition
51650	LFI	9077811	Langley AFB Airport	2275001000	1300	99				addition
51650	LFI	9077811	Langley AFB Airport	2275001000	1327	52				addition
51650	LFI	9077811	Langley AFB Airport	2275001000	1882	142				addition
51650	LFI	9077811	Langley AFB Airport	2275050012	999904	567				revision
51650	LFI	9077811	Langley AFB Airport	2275001000	999905	0				revision
51650	LFI	9077811	Langley AFB Airport	2275001000	548	92				addition

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FIP Code	Facility SiteID	EIS Facility SiteID	Airport	SCC	AETC	Revised LTO	Revised TGO	Revised Taxi_In	Revised Taxi_Out	Revision Comment
51650	LFI	9077811	Langley AFB Airport	2275001000	559	11				addition
51650	LFI	9077811	Langley AFB Airport	2275001000	2104	464				addition
51650	LFI	9077811	Langley AFB Airport	2275001000	1987	275				addition
51650	LFI	9077811	Langley AFB Airport	2275001000	1850	142				addition
51650	LFI	9077811	Langley AFB Airport	2275001000	1968	29				addition
51650	LFI	9077811	Langley AFB Airport	2275001000	3216	239				addition
51650	LFI	9077811	Langley AFB Airport	2275001000	999905	0				addition
51650	LFI	9077811	Langley AFB Airport	2275001000	1201	214				addition
51700	FAF	12376911	FELKER AAF	2275001000	2096	4,529				addition
51700	FAF	12376911	FELKER AAF	2275001000	2212	93,843				addition
51700	FAF	12376911	FELKER AAF	2275001000	2205	2,434				addition
51700	FAF	12376911	FELKER AAF	2275001000	999905	0				addition
51700	FAF	12376911	FELKER AAF	2275001000	999905	0				addition
51700	FAF	12376911	FELKER AAF	2275001000	999905	30,429				addition
51700	FAF	12376911	FELKER AAF	2275001000	999905	0				addition
51700	FAF	12376911	FELKER AAF	2275001000	2126	4,530				addition
51700	FAF	12376911	FELKER AAF	2275001000	999905	0				addition
51700	FAF	12376911	FELKER AAF	2275050012	999904	918				revision
51700	FAF	12376911	FELKER AAF	2275050011	999903	917				revision
51710	NGU	9068911	Norfolk Ns	2275001000	2205	1,746	1765			addition
51710	NGU	9068911	Norfolk Ns	2275001000	1841	5,326	4485			addition
51710	NGU	9068911	Norfolk Ns	2275001000	2212	5,326	5199			addition
51710	NGU	9068911	Norfolk Ns	2275001000	999905	0	0			addition
51710	NGU	9068911	Norfolk Ns	2275020000	1396	0				revision
51710	NGU	9068911	Norfolk Ns	2275001000	1311	493	97			addition
51710	NGU	9068911	Norfolk Ns	2275020000	1349	66				addition

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FIP Code	Facility SiteID	EIS Facility SiteID	Airport	SCC	AETC	Revised LTO	Revised TGO	Revised Taxi_In	Revised Taxi_Out	Revision Comment
51710	NGU	9068911	Norfolk Ns	2275020000	2326	48				addition
51710	NGU	9068911	Norfolk Ns	2275020000	1549	18				addition
51710	NGU	9068911	Norfolk Ns	2275020000	2104	18				addition
51710	NGU	9068911	Norfolk Ns	2275020000	2126	66				addition
51710	NGU	9068911	Norfolk Ns	2275020000	2825	354				addition
51710	NGU	9068911	Norfolk Ns	2275020000	2823	162				revision
51710	NGU	9068911	Norfolk Ns	2275020000	2286	354				revision
51710	NGU	9068911	Norfolk Ns	2275020000	999906	0				revision
51710	NGU	9068911	Norfolk Ns	2275020000	879	0				revision
51710	NGU	9068911	Norfolk Ns	2275050011	1515	18	48			addition
51710	NGU	9068911	Norfolk Ns	2275020000	2859	0				revision
51710	NGU	9068911	Norfolk Ns	2275050012	999904	0				revision
51710	NGU	9068911	Norfolk Ns	2275020000	1341	0				revision
51710	NGU	9068911	Norfolk Ns	2275060012	999902	0				revision
51710	NGU	9068911	Norfolk Ns	2275060011	999901	0				revision
51710	NGU	9068911	Norfolk Ns	2275020000	633	0				revision
51710	NGU	9068911	Norfolk Ns	2275001000	3216	287	73			addition
51710	NGU	9068911	Norfolk Ns	2275001000	1999	19	0			addition
51710	NGU	9068911	Norfolk Ns	2275001000	1968	56	0			addition
51710	NGU	9068911	Norfolk Ns	2275050011	999903	0				revision
51710	NGU	9068911	Norfolk Ns	2275001000	1201	193	48			addition
51710	NGU	9068911	Norfolk Ns	2275001000	999905	0	0			addition
51710	NGU	9068911	Norfolk Ns	2275001000	999905	0	0			addition
51710	NGU	9068911	Norfolk Ns	2275001000	999905	0				revision
51710	NGU	9068911	Norfolk Ns	2275050012	566	0	72			addition
51710	NGU	9068911	Norfolk Ns	2275050012	1891	168				addition

Appendix C – State LTO Data

FIP Code	Facility SiteID	EIS Facility SiteID	Airport	SCC	AETC	Revised LTO	Revised TGO	Revised Taxi_In	Revised Taxi_Out	Revision Comment
51710	NGU	9068911	Norfolk Ns	2275001000	1841	2,370	1197			addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	2215	10				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	2453	607.5				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	1841	226.5				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	2207	6				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	2212	223				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	1968	9				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	999905	33				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	999905	15				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275050012	1891	50				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275050012	1869	9				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275050012	999904	2.5				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275050012	1519	3.5				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275050012	560	27				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275050012	543	19				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275050012	2088	94				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275050011	2143	3				addition

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FIP Code	Facility SiteID	EIS Facility SiteID	Airport	SCC	AETC	Revised LTO	Revised TGO	Revised Taxi_In	Revised Taxi_Out	Revision Comment
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	27	29.5				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	2001	3.5				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275050012	1454	37				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	1306	30.5				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	2096	677.5				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	2055	639.5				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	2163	3				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	2172	0.5				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	2045	8				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	1201	103.5				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	547	6				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	666	457.5				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	2129	18				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	2126	23				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	2113	2				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275050012	2058	1.5				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275050012	999904	266				addition

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FIP Code	Facility SiteID	EIS Facility SiteID	Airport	SCC	AETC	Revised LTO	Revised TGO	Revised Taxi_In	Revised Taxi_Out	Revision Comment
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	1842	31.5				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	1966	2				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	1960	168				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	1892	11.5				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	1841	44.5				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	1252	1.5				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	1515	4				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	1203	7				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	2679	7				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	1327	3				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	999905	10.5				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	1285	2				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	1311	32716				addition
51810	NTU	12132011	OCEANA NAS /APOLLO SOUCEK FIELD/	2275001000	1998	85				addition

Appendix D - Generic Aircraft Type Emission Factors

SCC	Process Description	CAS No	Pollutant	Emission factors (tons/LTO)
2275001000	Aircraft/Military	100414	Ethyl Benzene	9.50E-06
2275001000	Aircraft/Military	100425	Styrene	1.69E-05
2275001000	Aircraft/Military	106990	1,3-Butadiene	9.21E-05
2275001000	Aircraft/Military	107028	Acrolein	1.34E-04
2275001000	Aircraft/Military	108383	m-Xylene	1.54E-05
2275001000	Aircraft/Military	108883	Toluene	3.51E-05
2275001000	Aircraft/Military	108952	Phenol	3.96E-05
2275001000	Aircraft/Military	123386	Propionaldehyde	3.97E-05
2275001000	Aircraft/Military	50000	Formaldehyde	6.72E-04
2275001000	Aircraft/Military	67561	Methanol	9.86E-05
2275001000	Aircraft/Military	71432	Benzene	9.18E-05
2275001000	Aircraft/Military	75070	Acetaldehyde	2.33E-04
2275001000	Aircraft/Military	90120	1-Methylnaphthalene	1.35E-05
2275001000	Aircraft/Military	91203	Naphthalene	2.95E-05
2275001000	Aircraft/Military	91576	2-Methylnaphthalene	1.13E-05
2275001000	Aircraft/Military	95476	o-Xylene	9.07E-06
2275001000	Aircraft/Military	98828	Cumene	1.64E-07
2275001000	Aircraft/Military	CO	Carbon Monoxide	1.30E-02
2275001000	Aircraft/Military	NOX	Nitrogen Oxides	1.12E-02
2275001000	Aircraft/Military	PM10-PRI	PM10 Primary (Filt + Cond)	6.97E-04
2275001000	Aircraft/Military	PM25-PRI	PM2.5 Primary (Filt + Cond)	6.80E-04
2275001000	Aircraft/Military	SO2	Sulfur Dioxide	1.05E-03
2275001000	Aircraft/Military	VOC	Volatile Organic Compounds	5.43E-03
2275020000	Aircraft/Commercial	100414	Ethyl Benzene	5.41E-06
2275020000	Aircraft/Commercial	100425	Styrene	9.61E-06
2275020000	Aircraft/Commercial	106990	1,3-Butadiene	5.24E-05
2275020000	Aircraft/Commercial	107028	Acrolein	7.61E-05
2275020000	Aircraft/Commercial	108383	m-Xylene	8.77E-06

Appendix D - Generic Aircraft Type Emission Factors

SCC	Process Description	CAS No	Pollutant	Emission factors (tons/LTO)
2275020000	Aircraft/Commercial	108883	Toluene	2.00E-05
2275020000	Aircraft/Commercial	108952	Phenol	2.26E-05
2275020000	Aircraft/Commercial	123386	Propionaldehyde	2.26E-05
2275020000	Aircraft/Commercial	129000	Pyrene	3.03E-09
2275020000	Aircraft/Commercial	191242	Benzo[g,h,i,]Perylene	1.73E-11
2275020000	Aircraft/Commercial	193395	Indeno[1,2,3-c,d]Pyrene	2.05E-09
2275020000	Aircraft/Commercial	205992	Benzo[b]Fluoranthene	1.89E-09
2275020000	Aircraft/Commercial	206440	Fluoranthene	2.49E-09
2275020000	Aircraft/Commercial	207089	Benzo[k]Fluoranthene	1.89E-09
2275020000	Aircraft/Commercial	218019	Chrysene	1.31E-09
2275020000	Aircraft/Commercial	50000	Formaldehyde	3.83E-04
2275020000	Aircraft/Commercial	50328	Benzo[a]Pyrene	9.62E-10
2275020000	Aircraft/Commercial	53703	Dibenzo[a,h]Anthracene	2.55E-09
2275020000	Aircraft/Commercial	540841	2,2,4-Trimethylpentane	1.47E-06
2275020000	Aircraft/Commercial	56553	Benz[a]Anthracene	1.30E-09
2275020000	Aircraft/Commercial	67561	Methanol	5.61E-05
2275020000	Aircraft/Commercial	71432	Benzene	5.23E-05
2275020000	Aircraft/Commercial	75070	Acetaldehyde	1.33E-04
2275020000	Aircraft/Commercial	85018	Phenanthrene	1.11E-08
2275020000	Aircraft/Commercial	90120	1-Methylnaphthalene	7.68E-06
2275020000	Aircraft/Commercial	91203	Naphthalene	1.68E-05
2275020000	Aircraft/Commercial	91576	2-Methylnaphthalene	6.40E-06
2275020000	Aircraft/Commercial	95476	o-Xylene	5.16E-06
2275020000	Aircraft/Commercial	98828	Cumene	9.33E-08
2275020000	Aircraft/Commercial	CO	Carbon Monoxide	1.12E-02
2275020000	Aircraft/Commercial	NOX	Nitrogen Oxides	9.29E-03
2275020000	Aircraft/Commercial	PM10-PRI	PM10 Primary (Filt + Cond)	5.39E-04
2275020000	Aircraft/Commercial	PM25-PRI	PM2.5 Primary (Filt + Cond)	5.26E-04

Appendix D - Generic Aircraft Type Emission Factors

SCC	Process Description	CAS No	Pollutant	Emission factors (tons/LTO)
2275020000	Aircraft/Commercial	SO2	Sulfur Dioxide	8.91E-04
2275020000	Aircraft/Commercial	VOC	Volatile Organic Compounds	3.08E-03
2275050011	Aircraft /General Aviation /Piston	100414	Ethyl Benzene	1.39E-06
2275050011	Aircraft /General Aviation /Piston	100425	Styrene	3.22E-07
2275050011	Aircraft /General Aviation /Piston	106990	1,3-Butadiene	9.28E-07
2275050011	Aircraft /General Aviation /Piston	107028	Acrolein	5.68E-08
2275050011	Aircraft /General Aviation /Piston	108883	Toluene	9.85E-06
2275050011	Aircraft /General Aviation /Piston	110543	Hexane	6.63E-07
2275050011	Aircraft /General Aviation /Piston	120127	Anthracene	1.01E-07
2275050011	Aircraft /General Aviation /Piston	123386	Propionaldehyde	5.68E-08
2275050011	Aircraft /General Aviation /Piston	129000	Pyrene	1.47E-07
2275050011	Aircraft /General Aviation /Piston	1330207	Xylenes (Mixed Isomers)	5.55E-06
2275050011	Aircraft /General Aviation /Piston	191242	Benzo[g,h,i,]Perylene	3.08E-08
2275050011	Aircraft /General Aviation /Piston	193395	Indeno[1,2,3-c,d]Pyrene	9.47E-09
2275050011	Aircraft /General Aviation /Piston	205992	Benzo[b]Fluoranthene	1.42E-08
2275050011	Aircraft /General Aviation /Piston	206440	Fluoranthene	1.08E-07
2275050011	Aircraft /General Aviation /Piston	207089	Benzo[k]Fluoranthene	1.42E-08
2275050011	Aircraft /General Aviation /Piston	208968	Acenaphthylene	4.88E-07
2275050011	Aircraft /General Aviation /Piston	218019	Chrysene	1.18E-08
2275050011	Aircraft /General Aviation /Piston	50000	Formaldehyde	2.55E-06
2275050011	Aircraft /General Aviation /Piston	50328	Benzo[a]Pyrene	1.18E-08
2275050011	Aircraft /General Aviation /Piston	540841	2,2,4-Trimethylpentane	3.39E-08
2275050011	Aircraft /General Aviation /Piston	56553	Benz[a]Anthracene	1.18E-08
2275050011	Aircraft /General Aviation /Piston	71432	Benzene	3.84E-06
2275050011	Aircraft /General Aviation /Piston	7439921	Lead	7.69E-06
2275050011	Aircraft /General Aviation /Piston	75070	Acetaldehyde	5.87E-07
2275050011	Aircraft /General Aviation /Piston	83329	Acenaphthene	8.64E-08
2275050011	Aircraft /General Aviation /Piston	85018	Phenanthrene	3.01E-07

Appendix D - Generic Aircraft Type Emission Factors

SCC	Process Description	CAS No	Pollutant	Emission factors (tons/LTO)
2275050011	Aircraft /General Aviation /Piston	86737	Fluorene	1.79E-07
2275050011	Aircraft /General Aviation /Piston	91203	Naphthalene	1.12E-05
2275050011	Aircraft /General Aviation /Piston	CO	Carbon Monoxide	6.01E-03
2275050011	Aircraft /General Aviation /Piston	NOX	Nitrogen Oxides	3.25E-05
2275050011	Aircraft /General Aviation /Piston	PM10-PRI	PM10 Primary (Filt + Cond)	1.18E-04
2275050011	Aircraft /General Aviation /Piston	PM25-PRI	PM2.5 Primary (Filt + Cond)	8.17E-05
2275050011	Aircraft /General Aviation /Piston	SO2	Sulfur Dioxide	5.00E-06
2275050011	Aircraft /General Aviation /Piston	VOC	Volatile Organic Compounds	7.52E-05
2275050012	Aircraft /General Aviation /Turbine	100414	Ethyl Benzene	6.05E-07
2275050012	Aircraft /General Aviation /Turbine	100425	Styrene	1.07E-06
2275050012	Aircraft /General Aviation /Turbine	106990	1,3-Butadiene	5.87E-06
2275050012	Aircraft /General Aviation /Turbine	107028	Acrolein	8.52E-06
2275050012	Aircraft /General Aviation /Turbine	108383	m-Xylene	9.81E-07
2275050012	Aircraft /General Aviation /Turbine	108883	Toluene	2.23E-06
2275050012	Aircraft /General Aviation /Turbine	108952	Phenol	2.52E-06
2275050012	Aircraft /General Aviation /Turbine	120127	Anthracene	5.22E-11
2275050012	Aircraft /General Aviation /Turbine	123386	Propionaldehyde	2.53E-06
2275050012	Aircraft /General Aviation /Turbine	129000	Pyrene	1.33E-10
2275050012	Aircraft /General Aviation /Turbine	191242	Benzo[g,h,i,]Perylene	7.18E-13
2275050012	Aircraft /General Aviation /Turbine	206440	Fluoranthene	1.09E-10
2275050012	Aircraft /General Aviation /Turbine	218019	Chrysene	7.36E-12
2275050012	Aircraft /General Aviation /Turbine	50000	Formaldehyde	4.28E-05
2275050012	Aircraft /General Aviation /Turbine	50328	Benzo[a]Pyrene	4.33E-12
2275050012	Aircraft /General Aviation /Turbine	540841	2,2,4-Trimethylpentane	1.31E-07
2275050012	Aircraft /General Aviation /Turbine	56553	Benz[a]Anthracene	7.90E-12
2275050012	Aircraft /General Aviation /Turbine	67561	Methanol	6.28E-06
2275050012	Aircraft /General Aviation /Turbine	71432	Benzene	5.85E-06
2275050012	Aircraft /General Aviation /Turbine	75070	Acetaldehyde	1.49E-05

Appendix D - Generic Aircraft Type Emission Factors

SCC	Process Description	CAS No	Pollutant	Emission factors (tons/LTO)
2275050012	Aircraft /General Aviation /Turbine	85018	Phenanthrene	4.86E-10
2275050012	Aircraft /General Aviation /Turbine	90120	1-Methylnaphthalene	8.59E-07
2275050012	Aircraft /General Aviation /Turbine	91203	Naphthalene	1.88E-06
2275050012	Aircraft /General Aviation /Turbine	91576	2-Methylnaphthalene	7.16E-07
2275050012	Aircraft /General Aviation /Turbine	95476	o-Xylene	5.77E-07
2275050012	Aircraft /General Aviation /Turbine	98828	Cumene	1.04E-08
2275050012	Aircraft /General Aviation /Turbine	CO	Carbon Monoxide	4.79E-03
2275050012	Aircraft /General Aviation /Turbine	NOX	Nitrogen Oxides	1.62E-04
2275050012	Aircraft /General Aviation /Turbine	PM10-PRI	PM10 Primary (Filt + Cond)	1.18E-04
2275050012	Aircraft /General Aviation /Turbine	PM25-PRI	PM2.5 Primary (Filt + Cond)	1.16E-04
2275050012	Aircraft /General Aviation /Turbine	SO2	Sulfur Dioxide	3.68E-05
2275050012	Aircraft /General Aviation /Turbine	VOC	Volatile Organic Compounds	3.45E-04
2275060011	Aircraft /Air Taxi /Piston	100414	Ethyl Benzene	1.39E-06
2275060011	Aircraft /Air Taxi /Piston	100425	Styrene	3.22E-07
2275060011	Aircraft /Air Taxi /Piston	106990	1,3-Butadiene	9.28E-07
2275060011	Aircraft /Air Taxi /Piston	107028	Acrolein	5.68E-08
2275060011	Aircraft /Air Taxi /Piston	108883	Toluene	9.85E-06
2275060011	Aircraft /Air Taxi /Piston	110543	Hexane	6.63E-07
2275060011	Aircraft /Air Taxi /Piston	120127	Anthracene	2.56E-07
2275060011	Aircraft /Air Taxi /Piston	123386	Propionaldehyde	5.68E-08
2275060011	Aircraft /Air Taxi /Piston	129000	Pyrene	3.74E-07
2275060011	Aircraft /Air Taxi /Piston	1330207	Xylenes (Mixed Isomers)	5.55E-06
2275060011	Aircraft /Air Taxi /Piston	191242	Benzo[g,h,i]Perylene	7.84E-08
2275060011	Aircraft /Air Taxi /Piston	193395	Indeno[1,2,3-c,d]Pyrene	2.41E-08
2275060011	Aircraft /Air Taxi /Piston	205992	Benzo[b]Fluoranthene	3.62E-08
2275060011	Aircraft /Air Taxi /Piston	206440	Fluoranthene	2.75E-07
2275060011	Aircraft /Air Taxi /Piston	207089	Benzo[k]Fluoranthene	3.62E-08
2275060011	Aircraft /Air Taxi /Piston	208968	Acenaphthylene	1.24E-06

Appendix D - Generic Aircraft Type Emission Factors

SCC	Process Description	CAS No	Pollutant	Emission factors (tons/LTO)
2275060011	Aircraft /Air Taxi /Piston	218019	Chrysene	3.02E-08
2275060011	Aircraft /Air Taxi /Piston	50000	Formaldehyde	2.55E-06
2275060011	Aircraft /Air Taxi /Piston	50328	Benzo[a]Pyrene	3.02E-08
2275060011	Aircraft /Air Taxi /Piston	540841	2,2,4-Trimethylpentane	3.39E-08
2275060011	Aircraft /Air Taxi /Piston	56553	Benz[a]Anthracene	3.02E-08
2275060011	Aircraft /Air Taxi /Piston	71432	Benzene	3.84E-06
2275060011	Aircraft /Air Taxi /Piston	7439921	Lead	7.69E-06
2275060011	Aircraft /Air Taxi /Piston	75070	Acetaldehyde	5.87E-07
2275060011	Aircraft /Air Taxi /Piston	83329	Acenaphthene	2.20E-07
2275060011	Aircraft /Air Taxi /Piston	85018	Phenanthrene	7.66E-07
2275060011	Aircraft /Air Taxi /Piston	86737	Fluorene	4.56E-07
2275060011	Aircraft /Air Taxi /Piston	91203	Naphthalene	2.78E-05
2275060011	Aircraft /Air Taxi /Piston	CO	Carbon Monoxide	1.41E-02
2275060011	Aircraft /Air Taxi /Piston	NOX	Nitrogen Oxides	7.90E-05
2275060011	Aircraft /Air Taxi /Piston	PM10-PRI	PM10 Primary (Filt + Cond)	3.02E-04
2275060011	Aircraft /Air Taxi /Piston	PM25-PRI	PM2.5 Primary (Filt + Cond)	2.08E-04
2275060011	Aircraft /Air Taxi /Piston	SO2	Sulfur Dioxide	7.50E-06
2275060011	Aircraft /Air Taxi /Piston	VOC	Volatile Organic Compounds	8.48E-05
2275060012	Aircraft /Air Taxi /Turbine	100414	Ethyl Benzene	8.83E-07
2275060012	Aircraft /Air Taxi /Turbine	100425	Styrene	1.57E-06
2275060012	Aircraft /Air Taxi /Turbine	106990	1,3-Butadiene	8.56E-06
2275060012	Aircraft /Air Taxi /Turbine	107028	Acrolein	1.24E-05
2275060012	Aircraft /Air Taxi /Turbine	108383	m-Xylene	1.43E-06
2275060012	Aircraft /Air Taxi /Turbine	108883	Toluene	3.26E-06
2275060012	Aircraft /Air Taxi /Turbine	108952	Phenol	3.68E-06
2275060012	Aircraft /Air Taxi /Turbine	120127	Anthracene	1.33E-10
2275060012	Aircraft /Air Taxi /Turbine	123386	Propionaldehyde	3.69E-06
2275060012	Aircraft /Air Taxi /Turbine	129000	Pyrene	3.40E-10

Appendix D - Generic Aircraft Type Emission Factors

SCC	Process Description	CAS No	Pollutant	Emission factors (tons/LTO)
2275060012	Aircraft /Air Taxi /Turbine	191242	Benzo[g,h,i,]Perylene	1.83E-12
2275060012	Aircraft /Air Taxi /Turbine	206440	Fluoranthene	2.78E-10
2275060012	Aircraft /Air Taxi /Turbine	218019	Chrysene	1.88E-11
2275060012	Aircraft /Air Taxi /Turbine	50000	Formaldehyde	6.25E-05
2275060012	Aircraft /Air Taxi /Turbine	50328	Benzo[a]Pyrene	1.10E-11
2275060012	Aircraft /Air Taxi /Turbine	540841	2,2,4-Trimethylpentane	1.92E-07
2275060012	Aircraft /Air Taxi /Turbine	56553	Benz[a]Anthracene	2.01E-11
2275060012	Aircraft /Air Taxi /Turbine	67561	Methanol	9.16E-06
2275060012	Aircraft /Air Taxi /Turbine	71432	Benzene	8.53E-06
2275060012	Aircraft /Air Taxi /Turbine	75070	Acetaldehyde	2.17E-05
2275060012	Aircraft /Air Taxi /Turbine	85018	Phenanthrene	1.24E-09
2275060012	Aircraft /Air Taxi /Turbine	90120	1-Methylnaphthalene	1.25E-06
2275060012	Aircraft /Air Taxi /Turbine	91203	Naphthalene	2.74E-06
2275060012	Aircraft /Air Taxi /Turbine	91576	2-Methylnaphthalene	1.05E-06
2275060012	Aircraft /Air Taxi /Turbine	95476	o-Xylene	8.42E-07
2275060012	Aircraft /Air Taxi /Turbine	98828	Cumene	1.52E-08
2275060012	Aircraft /Air Taxi /Turbine	CO	Carbon Monoxide	1.81E-03
2275060012	Aircraft /Air Taxi /Turbine	NOX	Nitrogen Oxides	3.88E-04
2275060012	Aircraft /Air Taxi /Turbine	PM10-PRI	PM10 Primary (Filt + Cond)	3.02E-04
2275060012	Aircraft /Air Taxi /Turbine	PM25-PRI	PM2.5 Primary (Filt + Cond)	2.94E-04
2275060012	Aircraft /Air Taxi /Turbine	SO2	Sulfur Dioxide	8.12E-05
2275060012	Aircraft /Air Taxi /Turbine	VOC	Volatile Organic Compounds	5.03E-04

Appendix E – Military Aircraft Emission Factors

Updating the Generic Military Emission Factors for the 2014 National Emission Inventory

Purpose

The generic emission factors for aircraft have not be updated in a few years. However with more states providing generic military activity, the generic military emission factors have been updated. The overall military fleet was compiled for all branches of the U.S. military. These aircraft where than matched to data from FAA’s Emission Dispersion Modeling Software (EDMS). The emissions data then were extracted from EDMS and divided by the LTOs used to create emissions factors. A weighted average emission factor was then calculated based the aircraft count. Table 1 summarizes the aircraft and count by the EDMS codes and aircraft name. Not all aircraft could be matched. When possible similar aircraft or their civilian models were used as surrogates. However some aircraft could not be matched and were not included. Of the original 12,366 military aircraft, 3051 (24.6%) were not matched.

Table 1. Military Aircraft Count by EDMS Code and Names.

Aircraft	ACCODE	Count
A-10 Thunderbolt II	MIL-A10A	280
AH-1 SuperCobra	MIL-AH1W	128
AH-1Z Viper	MIL-AH1W	33
AV-8B Harrier II	MIL-AV8B	112
Beech T-44	BEECH100	52
Beechcraft C-12 Huron	MIL-C12	132
Boeing B-52 Stratofortress	MIL-B52	78
Boeing C-32	B757-2F	8
Boeing C-40 Clipper	B737-7	14
Boeing E-3 Sentry	B707-3	32
Boeing E-4	B747-2	4
Boeing OC-135B Open Skies	MIL-C130	2
Boeing RC-135	MIL-KC135	22
Bombardier Dash 8	DHC8Q-2	7
C-130 Hercules	MIL-C130	21
C-144	CN235-3	2
C-146A Wolfhound	DO328-1	14
C-17 Globemaster III	MIL-C17A	222
C-27J Spartan	MIL-C130	7
C-31 Troopship	F27-4	2

Table 1. Military Aircraft Count by EDMS Code and Names.

Aircraft	ACCODE	Count
C-40 Clipper	B737-7	14
C-9 Skytrain II	DC9-4F	2
Cessna 208 Caravan	CNA208	3
Cessna T-51	CNA150	3
Cessna UC-35	CNA560	27
CH-53E Super Stallion	MIL-CH53E	147
Cirrus T-53[14]	SR20	3
CT-39 Sabreliner	SABR50	1
de Havilland Canada UV-18	DHC6-2	3
E-2 Hawkeye	MIL-E2	69
E-6 Mercury	B707-3	16
E-8 Joint STARS	B707-3	16
E-9A Widget	DHC8Q-1	2
EA-18G Growler	MIL-EA6B	114
EA-6B Prowler	MIL-EA6B	25
EC-130H Compass Call	MIL-C130	14
EC-130J Commando Solo III	MIL-C130	7
EH-60 Black Hawk	MIL-UH60	64
EP-3 ARIES II	MIL-P3	15
F/A-18 Hornet	MIL-F18	577
F/A-18E/F Super Hornet	MIL-F18	319
F-15 Eagle	MIL-F15	193
F-15E Strike Eagle	MIL-F15E	219
F-16 Fighting Falcon	MIL-F16	912
F-5E/F/N Tiger II	MIL-F5	43
Fairchild C-26 Metroliner	SA227	29
Gulfstream C-20	GULF3	15
Gulfstream C-37	GULF5	20
Gulfstream C-38	GULF100	2
HC-130 Combat King/Combat King II	MIL-C130	41
HC-130 Hercules	MIL-C130	27
HC-144 Ocean Sentry	CN235-1	18
HH-60 Jayhawk	MIL-UH60	41
HH-60 Rescue Hawk	MIL-UH60	49
KC-10 Extender	MIL-KC135	59
KC-130 Hercules/Super Hercules	MIL-C130	74
KC-135 Stratotanker	MIL-KC135	396
LC-130 Hercules	MIL-C130	10
Learjet C-21	LEAR36	17

Table 1. Military Aircraft Count by EDMS Code and Names.

Aircraft	ACCODE	Count
Lockheed AC-130 Spectre	MIL-C130	27
Lockheed C-130 Hercules	MIL-C130	259
Lockheed C-5 Galaxy	MIL-C5	72
Lockheed Martin C-130J Super Hercules	MIL-C130	100
Lockheed Martin KC-130	MIL-C130	6
Lockheed WC-130 Hercules	MIL-C130	10
MC-130 Combat Talon II/Combat Shadow	MIL-C130	45
MH-53 Sea Dragon	MIL-CH53E	29
MH-60 Black Hawk	MIL-UH60	58
MH-60 Seahawk	MIL-UH60	400
Northrop Grumman B-2 Spirit	MIL-B2	20
Northrop Grumman E-11A[11]	GLOBALEXPRESS	4
OH-58 Kiowa	BELL206	618
P-3 Orion	MIL-P3	115
Pilatus U-28	PC12	19
RC-12 Huron	MIL-C12	36
Rockwell B-1 Lancer	MIL-B1B	62
SH-60 Seahawk	MIL-UH60	60
Sikorsky HH-60 Pave Hawk	MIL-UH60	97
T-38 Talon	MIL-T38	492
T-41 Mescalero	CNA172	4
TAV-8B Harrier II	MIL-AV8B	16
TH-1 Iroquois	MIL-UH1	37
TH-57 Sea Ranger	BELL206	129
TH-67 Creek	BELL206	180
UC-12 Huron	MIL-C12	12
UC-35 Citation	CNA560	13
UH-1N Twin Huey	MIL-UH1	62
UH-1Y Venom	MIL-UH1	92
UH-60 Black Hawk	MIL-UH60	1,443
VH-3 Sea King	MIL-SH3	11
VH-60 Whitehawk	MIL-UH60	7
WC-135 Constant Phoenix	MIL-KC135	2
Total		9,315

Table 2 summarizes the revised criteria emission factors and compares them to the previous emission factors.

Table 2. Comparison of Revised Criteria Emission Factors to the Previous Emission Factors (tons/LTO)

Pollutant	Revised Weighted EF	Previous EF
THC	4.723E-03	6.170E-04
VOC	5.433E-03	7.096E-04
TOG	5.461E-03	7.157E-04
NO _x	1.117E-02	7.900E-05
CO	1.298E-02	1.407E-02
SO _x	1.055E-03	7.500E-06
PM _{10-PRI}	6.965E-04	3.017E-04

Appendix F – Total Annual Emissions by SCC

SCC	SCC Description	Pollutant	Pollutant CAS	Emissions (Ton)
2265008005	GSE - Gasoline	2,2,4-Trimethylpentane	540841	3.361589
2265008005	GSE - Gasoline	Acetaldehyde	75070	1.408369
2265008005	GSE - Gasoline	Benzene	71432	3.921854
2265008005	GSE - Gasoline	Carbon Monoxide	CO	7532.757
2265008005	GSE - Gasoline	Ethyl Benzene	100414	1.50151
2265008005	GSE - Gasoline	Formaldehyde	50000	4.167028
2265008005	GSE - Gasoline	Hexane	110543	0.213231
2265008005	GSE - Gasoline	Methane	CH4	5.490596
2265008005	GSE - Gasoline	m-Xylene	108383	3.726444
2265008005	GSE - Gasoline	Nitrogen Oxides	NOX	819.0748
2265008005	GSE - Gasoline	o-Xylene	95476	1.823153
2265008005	GSE - Gasoline	PM10 Primary (Filt + Cond)	PM10-PRI	31.12543
2265008005	GSE - Gasoline	PM2.5 Primary (Filt + Cond)	PM25-PRI	29.65164
2265008005	GSE - Gasoline	Propionaldehyde	123386	0.856637
2265008005	GSE - Gasoline	Sulfur Dioxide	SO2	24.73865
2265008005	GSE - Gasoline	Toluene	108883	6.678358
2265008005	GSE - Gasoline	Volatile Organic Compounds	VOC	256.9487
2265008005	GSE - Gasoline	Xylenes (Mixed Isomers)	1330207	0.658139
2267008005	GSE - LPG	2,2,4-Trimethylpentane	540841	0.330218
2267008005	GSE - LPG	Acetaldehyde	75070	0.138348
2267008005	GSE - LPG	Benzene	71432	0.385254
2267008005	GSE - LPG	Carbon Monoxide	CO	739.9626
2267008005	GSE - LPG	Ethyl Benzene	100414	0.147497
2267008005	GSE - LPG	Formaldehyde	50000	0.409338
2267008005	GSE - LPG	Hexane	110543	0.020946
2267008005	GSE - LPG	Methane	CH4	0.539356
2267008005	GSE - LPG	m-Xylene	108383	0.366058

Appendix F – Total Annual Emissions by SCC

SCC	SCC Description	Pollutant	Pollutant CAS	Emissions (Ton)
2267008005	GSE - LPG	Nitrogen Oxides	NOX	80.45988
2267008005	GSE - LPG	o-Xylene	95476	0.179093
2267008005	GSE - LPG	PM10 Primary (Filt + Cond)	PM10-PRI	3.057533
2267008005	GSE - LPG	PM2.5 Primary (Filt + Cond)	PM25-PRI	2.912759
2267008005	GSE - LPG	Propionaldehyde	123386	0.08415
2267008005	GSE - LPG	Sulfur Dioxide	SO2	2.430143
2267008005	GSE - LPG	Toluene	108883	0.656033
2267008005	GSE - LPG	Volatile Organic Compounds	VOC	25.24074
2267008005	GSE - LPG	Xylenes (Mixed Isomers)	1330207	0.064651
2268008005	GSE - CNG	2,2,4-Trimethylpentane	540841	0.261135
2268008005	GSE - CNG	Acetaldehyde	75070	0.109405
2268008005	GSE - CNG	Benzene	71432	0.304657
2268008005	GSE - CNG	Carbon Monoxide	CO	585.1587
2268008005	GSE - CNG	Ethyl Benzene	100414	0.11664
2268008005	GSE - CNG	Formaldehyde	50000	0.323703
2268008005	GSE - CNG	Hexane	110543	0.016564
2268008005	GSE - CNG	Methane	CH4	0.42652
2268008005	GSE - CNG	m-Xylene	108383	0.289477
2268008005	GSE - CNG	Nitrogen Oxides	NOX	63.62727
2268008005	GSE - CNG	o-Xylene	95476	0.141626
2268008005	GSE - CNG	PM10 Primary (Filt + Cond)	PM10-PRI	2.417882
2268008005	GSE - CNG	PM2.5 Primary (Filt + Cond)	PM25-PRI	2.303396
2268008005	GSE - CNG	Propionaldehyde	123386	0.066545
2268008005	GSE - CNG	Sulfur Dioxide	SO2	1.921745
2268008005	GSE - CNG	Toluene	108883	0.518787
2268008005	GSE - CNG	Volatile Organic Compounds	VOC	19.96025
2268008005	GSE - CNG	Xylenes (Mixed Isomers)	1330207	0.051125

Appendix F – Total Annual Emissions by SCC

SCC	SCC Description	Pollutant	Pollutant CAS	Emissions (Ton)
2270008005	GSE - Diesel	2,2,4-Trimethylpentane	540841	15.70417
2270008005	GSE - Diesel	Acetaldehyde	75070	6.483925
2270008005	GSE - Diesel	Benzene	71432	18.32154
2270008005	GSE - Diesel	Carbon Monoxide	CO	35088.6
2270008005	GSE - Diesel	Ethyl Benzene	100414	7.014531
2270008005	GSE - Diesel	Formaldehyde	50000	19.1844
2270008005	GSE - Diesel	Hexane	110543	0.729337
2270008005	GSE - Diesel	Methane	CH4	25.65015
2270008005	GSE - Diesel	m-Xylene	108383	17.71784
2270008005	GSE - Diesel	Nitrogen Oxides	NOX	3803.001
2270008005	GSE - Diesel	o-Xylene	95476	8.668405
2270008005	GSE - Diesel	PM10 Primary (Filt + Cond)	PM10-PRI	143.0173
2270008005	GSE - Diesel	PM2.5 Primary (Filt + Cond)	PM25-PRI	136.2138
2270008005	GSE - Diesel	Propionaldehyde	123386	3.94383
2270008005	GSE - Diesel	Sulfur Dioxide	SO2	115.0641
2270008005	GSE - Diesel	Toluene	108883	31.19896
2270008005	GSE - Diesel	Volatile Organic Compounds	VOC	1194.016
2270008005	GSE - Diesel	Xylenes (Mixed Isomers)	1330207	2.614132
2275001000	Military	1,3-Butadiene	106990	391.8851
2275001000	Military	1-Methylnaphthalene	90120	53.88884
2275001000	Military	2-Methylnaphthalene	91576	47.82816
2275001000	Military	Acetaldehyde	75070	992.4179
2275001000	Military	Acrolein	107028	568.8668
2275001000	Military	Benzene	71432	390.5208
2275001000	Military	Carbon Dioxide	CO2	437339.4
2275001000	Military	Carbon Monoxide	CO	54746.79
2275001000	Military	Cumene	98828	0.696527

Appendix F – Total Annual Emissions by SCC

SCC	SCC Description	Pollutant	Pollutant CAS	Emissions (Ton)
2275001000	Military	Ethyl Benzene	100414	40.41813
2275001000	Military	Formaldehyde	50000	2859.927
2275001000	Military	Methane	CH4	1.429428
2275001000	Military	Methanol	67561	419.0769
2275001000	Military	m-Xylene	108383	65.41014
2275001000	Military	Naphthalene	91203	125.4951
2275001000	Military	Nitrogen Oxides	NOX	45340.07
2275001000	Military	o-Xylene	95476	38.50736
2275001000	Military	Phenol	108952	168.5882
2275001000	Military	PM10 Primary (Filt + Cond)	PM10-PRI	2834.829
2275001000	Military	PM2.5 Primary (Filt + Cond)	PM25-PRI	2768.047
2275001000	Military	Propionaldehyde	123386	168.9091
2275001000	Military	Styrene	100425	71.79055
2275001000	Military	Sulfur Dioxide	SO2	4319.785
2275001000	Military	Toluene	108883	149.1207
2275001000	Military	Volatile Organic Compounds	VOC	23107.6
2275001000	Military	Xylenes (Mixed Isomers)	1330207	0.154585
2275020000	Commercial	1,3-Butadiene	106990	235.688
2275020000	Commercial	1-Methylnaphthalene	90120	2.163988
2275020000	Commercial	2,2,4-Trimethylpentane	540841	0.413131
2275020000	Commercial	2-Methylnaphthalene	91576	28.77992
2275020000	Commercial	Acetaldehyde	75070	596.834
2275020000	Commercial	Acrolein	107028	342.1457
2275020000	Commercial	Benz[a]Anthracene	56553	0.000366
2275020000	Commercial	Benzene	71432	234.8497
2275020000	Commercial	Benzo[a]Pyrene	50328	0.000271
2275020000	Commercial	Benzo[b]Fluoranthene	205992	0.000533

Appendix F – Total Annual Emissions by SCC

SCC	SCC Description	Pollutant	Pollutant CAS	Emissions (Ton)
2275020000	Commercial	Benzo[g,h,i]Perylene	191242	4.86E-06
2275020000	Commercial	Benzo[k]Fluoranthene	207089	0.000533
2275020000	Commercial	Carbon Dioxide	CO2	64625770
2275020000	Commercial	Carbon Monoxide	CO	97127.64
2275020000	Commercial	Chrysene	218019	0.00037
2275020000	Commercial	Cumene	98828	0.419125
2275020000	Commercial	Dibenzo[a,h]Anthracene	53703	0.000719
2275020000	Commercial	Ethyl Benzene	100414	24.30925
2275020000	Commercial	Fluoranthene	206440	0.000702
2275020000	Commercial	Formaldehyde	50000	1719.81
2275020000	Commercial	Indeno[1,2,3-c,d]Pyrene	193395	0.000578
2275020000	Commercial	Methanol	67561	252.1736
2275020000	Commercial	m-Xylene	108383	36.22902
2275020000	Commercial	Naphthalene	91203	73.17672
2275020000	Commercial	Nitrogen Oxides	NOX	104202.2
2275020000	Commercial	o-Xylene	95476	21.3263
2275020000	Commercial	Phenanthrene	85018	0.003134
2275020000	Commercial	Phenol	108952	101.4283
2275020000	Commercial	PM10 Primary (Filt + Cond)	PM10-PRI	1879.555
2275020000	Commercial	PM2.5 Primary (Filt + Cond)	PM25-PRI	1875.913
2275020000	Commercial	Propionaldehyde	123386	101.568
2275020000	Commercial	Pyrene	129000	0.000853
2275020000	Commercial	Styrene	100425	43.16988
2275020000	Commercial	Sulfur Dioxide	SO2	12215.11
2275020000	Commercial	Toluene	108883	89.69275
2275020000	Commercial	Volatile Organic Compounds	VOC	17221.16
2275020000	Commercial	Xylenes (Mixed Isomers)	1330207	5.034017

Appendix F – Total Annual Emissions by SCC

SCC	SCC Description	Pollutant	Pollutant CAS	Emissions (Ton)
2275050011	General Aviation, Piston	1,3-Butadiene	106990	27.13228
2275050011	General Aviation, Piston	2,2,4-Trimethylpentane	540841	0.971083
2275050011	General Aviation, Piston	2-Methylnaphthalene	91576	0.060514
2275050011	General Aviation, Piston	Acenaphthene	83329	2.472241
2275050011	General Aviation, Piston	Acenaphthylene	208968	13.95292
2275050011	General Aviation, Piston	Acetaldehyde	75070	18.25235
2275050011	General Aviation, Piston	Acrolein	107028	2.436199
2275050011	General Aviation, Piston	Anthracene	120127	2.878637
2275050011	General Aviation, Piston	Benz[a]Anthracene	56553	0.338663
2275050011	General Aviation, Piston	Benzene	71432	110.3684
2275050011	General Aviation, Piston	Benzo[a]Pyrene	50328	0.338663
2275050011	General Aviation, Piston	Benzo[b]Fluoranthene	205992	0.406396
2275050011	General Aviation, Piston	Benzo[g,h,i]Perylene	191242	0.880524
2275050011	General Aviation, Piston	Benzo[k]Fluoranthene	207089	0.406396
2275050011	General Aviation, Piston	Carbon Dioxide	CO2	21798.63
2275050011	General Aviation, Piston	Carbon Monoxide	CO	172256
2275050011	General Aviation, Piston	Chrysene	218019	0.338663
2275050011	General Aviation, Piston	Cumene	98828	0.000881
2275050011	General Aviation, Piston	Ethyl Benzene	100414	39.90965
2275050011	General Aviation, Piston	Fluoranthene	206440	3.081835
2275050011	General Aviation, Piston	Fluorene	86737	5.113814
2275050011	General Aviation, Piston	Formaldehyde	50000	77.16153
2275050011	General Aviation, Piston	Hexane	110543	18.97713
2275050011	General Aviation, Piston	Indeno[1,2,3-c,d]Pyrene	193395	0.270931
2275050011	General Aviation, Piston	Lead	7439921	220.0166
2275050011	General Aviation, Piston	Methane	CH4	0.479356
2275050011	General Aviation, Piston	Methanol	67561	0.530229

Appendix F – Total Annual Emissions by SCC

SCC	SCC Description	Pollutant	Pollutant CAS	Emissions (Ton)
2275050011	General Aviation, Piston	m-Xylene	108383	0.08334
2275050011	General Aviation, Piston	Naphthalene	91203	319.7123
2275050011	General Aviation, Piston	Nitrogen Oxides	NOX	945.8399
2275050011	General Aviation, Piston	o-Xylene	95476	0.04912
2275050011	General Aviation, Piston	Phenanthrene	85018	8.602044
2275050011	General Aviation, Piston	Phenol	108952	0.222897
2275050011	General Aviation, Piston	PM10 Primary (Filt + Cond)	PM10-PRI	3388.426
2275050011	General Aviation, Piston	PM2.5 Primary (Filt + Cond)	PM25-PRI	2338.57
2275050011	General Aviation, Piston	Propionaldehyde	123386	1.879571
2275050011	General Aviation, Piston	Pyrene	129000	4.199423
2275050011	General Aviation, Piston	Styrene	100425	9.324431
2275050011	General Aviation, Piston	Sulfur Dioxide	SO2	147.2448
2275050011	General Aviation, Piston	Toluene	108883	282.156
2275050011	General Aviation, Piston	Volatile Organic Compounds	VOC	2185.888
2275050011	General Aviation, Piston	Xylenes (Mixed Isomers)	1330207	158.8841
2275050012	General Aviation, Turbine	1,3-Butadiene	106990	68.61529
2275050012	General Aviation, Turbine	1-Methylnaphthalene	90120	9.508751
2275050012	General Aviation, Turbine	2,2,4-Trimethylpentane	540841	1.453194
2275050012	General Aviation, Turbine	2-Methylnaphthalene	91576	8.378617
2275050012	General Aviation, Turbine	Acetaldehyde	75070	173.7549
2275050012	General Aviation, Turbine	Acrolein	107028	99.60807
2275050012	General Aviation, Turbine	Anthracene	120127	0.000578
2275050012	General Aviation, Turbine	Benz[a]Anthracene	56553	8.75E-05
2275050012	General Aviation, Turbine	Benzene	71432	68.37127
2275050012	General Aviation, Turbine	Benzo[a]Pyrene	50328	4.79E-05
2275050012	General Aviation, Turbine	Benzo[g,h,i]Perylene	191242	7.95E-06
2275050012	General Aviation, Turbine	Carbon Dioxide	CO2	1377311

Appendix F – Total Annual Emissions by SCC

SCC	SCC Description	Pollutant	Pollutant CAS	Emissions (Ton)
2275050012	General Aviation, Turbine	Carbon Monoxide	CO	53854.59
2275050012	General Aviation, Turbine	Chrysene	218019	8.15E-05
2275050012	General Aviation, Turbine	Cumene	98828	0.122019
2275050012	General Aviation, Turbine	Ethyl Benzene	100414	7.077095
2275050012	General Aviation, Turbine	Fluoranthene	206440	0.001209
2275050012	General Aviation, Turbine	Formaldehyde	50000	500.6844
2275050012	General Aviation, Turbine	Methane	CH4	0.000763
2275050012	General Aviation, Turbine	Methanol	67561	73.41458
2275050012	General Aviation, Turbine	m-Xylene	108383	11.01122
2275050012	General Aviation, Turbine	Naphthalene	91203	21.40257
2275050012	General Aviation, Turbine	Nitrogen Oxides	NOX	1977.007
2275050012	General Aviation, Turbine	o-Xylene	95476	6.48178
2275050012	General Aviation, Turbine	Phenanthrene	85018	0.005379
2275050012	General Aviation, Turbine	Phenol	108952	29.52854
2275050012	General Aviation, Turbine	PM10 Primary (Filt + Cond)	PM10-PRI	1320.247
2275050012	General Aviation, Turbine	PM2.5 Primary (Filt + Cond)	PM25-PRI	1288.802
2275050012	General Aviation, Turbine	Propionaldehyde	123386	29.56926
2275050012	General Aviation, Turbine	Pyrene	129000	0.001477
2275050012	General Aviation, Turbine	Styrene	100425	12.56795
2275050012	General Aviation, Turbine	Sulfur Dioxide	SO2	458.7416
2275050012	General Aviation, Turbine	Toluene	108883	26.11204
2275050012	General Aviation, Turbine	Volatile Organic Compounds	VOC	4091.09
2275050012	General Aviation, Turbine	Xylenes (Mixed Isomers)	1330207	0.728494
2275060011	Air Taxi, Piston	1,3-Butadiene	106990	6.165347
2275060011	Air Taxi, Piston	2,2,4-Trimethylpentane	540841	0.034841
2275060011	Air Taxi, Piston	2-Methylnaphthalene	91576	0.025679
2275060011	Air Taxi, Piston	Acenaphthene	83329	0.226092

Appendix F – Total Annual Emissions by SCC

SCC	SCC Description	Pollutant	Pollutant CAS	Emissions (Ton)
2275060011	Air Taxi, Piston	Acenaphthylene	208968	1.276029
2275060011	Air Taxi, Piston	Acetaldehyde	75070	14.89857
2275060011	Air Taxi, Piston	Acrolein	107028	6.926546
2275060011	Air Taxi, Piston	Anthracene	120127	0.263258
2275060011	Air Taxi, Piston	Benz[a]Anthracene	56553	0.030972
2275060011	Air Taxi, Piston	Benzene	71432	9.851627
2275060011	Air Taxi, Piston	Benzo[a]Pyrene	50328	0.030972
2275060011	Air Taxi, Piston	Benzo[b]Fluoranthene	205992	0.037166
2275060011	Air Taxi, Piston	Benzo[g,h,i]Perylene	191242	0.080526
2275060011	Air Taxi, Piston	Benzo[k]Fluoranthene	207089	0.037166
2275060011	Air Taxi, Piston	Carbon Dioxide	CO2	91486.57
2275060011	Air Taxi, Piston	Carbon Monoxide	CO	26140.08
2275060011	Air Taxi, Piston	Chrysene	218019	0.030972
2275060011	Air Taxi, Piston	Cumene	98828	0.000374
2275060011	Air Taxi, Piston	Ethyl Benzene	100414	1.929415
2275060011	Air Taxi, Piston	Fluoranthene	206440	0.281841
2275060011	Air Taxi, Piston	Fluorene	86737	0.467671
2275060011	Air Taxi, Piston	Formaldehyde	50000	49.1993
2275060011	Air Taxi, Piston	Hexane	110543	0.680878
2275060011	Air Taxi, Piston	Indeno[1,2,3-c,d]Pyrene	193395	0.024777
2275060011	Air Taxi, Piston	Lead	7439921	8.109466
2275060011	Air Taxi, Piston	Methane	CH4	34.88532
2275060011	Air Taxi, Piston	Methanol	67561	0.225005
2275060011	Air Taxi, Piston	m-Xylene	108383	0.831552
2275060011	Air Taxi, Piston	Naphthalene	91203	30.17827
2275060011	Air Taxi, Piston	Nitrogen Oxides	NOX	108.8943
2275060011	Air Taxi, Piston	o-Xylene	95476	0.572318

Appendix F – Total Annual Emissions by SCC

SCC	SCC Description	Pollutant	Pollutant CAS	Emissions (Ton)
2275060011	Air Taxi, Piston	Phenanthrene	85018	0.786678
2275060011	Air Taxi, Piston	Phenol	108952	0.791393
2275060011	Air Taxi, Piston	PM10 Primary (Filt + Cond)	PM10-PRI	348.1794
2275060011	Air Taxi, Piston	PM2.5 Primary (Filt + Cond)	PM25-PRI	252.1675
2275060011	Air Taxi, Piston	Propionaldehyde	123386	3.016273
2275060011	Air Taxi, Piston	Pyrene	129000	0.384047
2275060011	Air Taxi, Piston	Styrene	100425	1.548004
2275060011	Air Taxi, Piston	Sulfur Dioxide	SO2	41.75864
2275060011	Air Taxi, Piston	Toluene	108883	11.75701
2275060011	Air Taxi, Piston	Volatile Organic Compounds	VOC	371.0374
2275060011	Air Taxi, Piston	Xylenes (Mixed Isomers)	1330207	5.753681
2275060012	Air Taxi, Turbine	1,3-Butadiene	106990	53.56309
2275060012	Air Taxi, Turbine	1-Methylnaphthalene	90120	4.206082
2275060012	Air Taxi, Turbine	2,2,4-Trimethylpentane	540841	0.642803
2275060012	Air Taxi, Turbine	2-Methylnaphthalene	91576	6.138705
2275060012	Air Taxi, Turbine	Acetaldehyde	75070	136.3598
2275060012	Air Taxi, Turbine	Acrolein	107028	77.29755
2275060012	Air Taxi, Turbine	Anthracene	120127	0.000447
2275060012	Air Taxi, Turbine	Benz[a]Anthracene	56553	6.76E-05
2275060012	Air Taxi, Turbine	Benzene	71432	53.84549
2275060012	Air Taxi, Turbine	Benzo[a]Pyrene	50328	3.7E-05
2275060012	Air Taxi, Turbine	Benzo[g,h,i,]Perylene	191242	6.14E-06
2275060012	Air Taxi, Turbine	Carbon Dioxide	CO2	3418430
2275060012	Air Taxi, Turbine	Carbon Monoxide	CO	11647.21
2275060012	Air Taxi, Turbine	Chrysene	218019	6.3E-05
2275060012	Air Taxi, Turbine	Cumene	98828	0.089398
2275060012	Air Taxi, Turbine	Ethyl Benzene	100414	5.499572

Appendix F – Total Annual Emissions by SCC

SCC	SCC Description	Pollutant	Pollutant CAS	Emissions (Ton)
2275060012	Air Taxi, Turbine	Fluoranthene	206440	0.000934
2275060012	Air Taxi, Turbine	Formaldehyde	50000	396.4747
2275060012	Air Taxi, Turbine	Methane	CH4	22.95499
2275060012	Air Taxi, Turbine	Methanol	67561	53.78817
2275060012	Air Taxi, Turbine	m-Xylene	108383	8.153897
2275060012	Air Taxi, Turbine	Naphthalene	91203	15.94258
2275060012	Air Taxi, Turbine	Nitrogen Oxides	NOX	2530.368
2275060012	Air Taxi, Turbine	o-Xylene	95476	4.853195
2275060012	Air Taxi, Turbine	Phenanthrene	85018	0.004157
2275060012	Air Taxi, Turbine	Phenol	108952	22.09566
2275060012	Air Taxi, Turbine	PM10 Primary (Filt + Cond)	PM10-PRI	1102.187
2275060012	Air Taxi, Turbine	PM2.5 Primary (Filt + Cond)	PM25-PRI	1077.885
2275060012	Air Taxi, Turbine	Propionaldehyde	123386	23.55098
2275060012	Air Taxi, Turbine	Pyrene	129000	0.001142
2275060012	Air Taxi, Turbine	Styrene	100425	9.983705
2275060012	Air Taxi, Turbine	Sulfur Dioxide	SO2	577.5369
2275060012	Air Taxi, Turbine	Toluene	108883	20.15851
2275060012	Air Taxi, Turbine	Volatile Organic Compounds	VOC	3173.301
2275060012	Air Taxi, Turbine	Xylenes (Mixed Isomers)	1330207	1.265494
2275070000	APU	1,3-Butadiene	106990	3.875523
2275070000	APU	2-Methylnaphthalene	91576	0.473241
2275070000	APU	Acetaldehyde	75070	9.814011
2275070000	APU	Acrolein	107028	5.626056
2275070000	APU	Benzene	71432	3.86174
2275070000	APU	Carbon Monoxide	CO	2828.592
2275070000	APU	Cumene	98828	0.006892
2275070000	APU	Ethyl Benzene	100414	0.399728

Appendix F – Total Annual Emissions by SCC

SCC	SCC Description	Pollutant	Pollutant CAS	Emissions (Ton)
2275070000	APU	Formaldehyde	50000	28.2796
2275070000	APU	Methanol	67561	4.146603
2275070000	APU	m-Xylene	108383	0.566003
2275070000	APU	Naphthalene	91203	1.136859
2275070000	APU	Nitrogen Oxides	NOX	2640.131
2275070000	APU	o-Xylene	95476	0.333179227
2275070000	APU	Phenol	108952	1.667830632
2275070000	APU	PM10 Primary (Filt + Cond)	PM10-PRI	361.8330668
2275070000	APU	PM2.5 Primary (Filt + Cond)	PM25-PRI	361.8330668
2275070000	APU	Propionaldehyde	123386	1.670127513
2275070000	APU	Styrene	100425	0.709861691
2275070000	APU	Sulfur Dioxide	SO2	375.9059627
2275070000	APU	Toluene	108883	1.474858459
2275070000	APU	Volatile Organic Compounds	VOC	228.5307895
2275070000	APU	Xylenes (Mixed Isomers)	1330207	0.130001697